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Number 51

Conservation Tillage: January 1980- August 1985

Citations from Agricola Concerning Diseases and Other Environmental Considerations



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Conservation Tillage: January 1980 - August 1985

Citations from Agricola Concerning Diseases and Other Environmental Considerations

Compiled and Edited by
Charles N. Bebee
National Agricultural Library

United States Department of Agriculture
National Agricultural Library
Beltsville, Maryland 20705

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United States Environmental Protection Agency
Office of Pesticide Programs
Washington, D.C. 20460

Bibliographies and Literature of Agriculture
Number 51

August 1986

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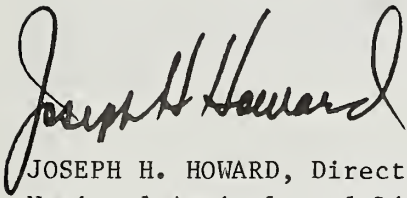
FOREWORD

This is the 12th volume in a series of commodity-oriented environmental bibliographies resulting from a memorandum of understanding between the United States Department of Agriculture, National Agricultural Library (USDA-NAL), and the Environmental Protection Agency, Office of Pesticide Programs (EPA-OPP).

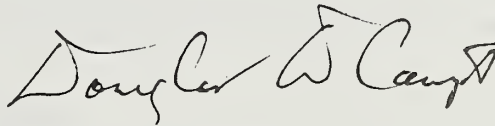
This close working relationship between the two agencies will produce a series of bibliographies which will be useful to EPA in the regulation of pesticides, as well as to any researcher in the field of plant or commodity protection. The broad scope of information contained in this series will benefit USDA, EPA, and the agricultural community as a whole.

The sources referenced in these bibliographies include the majority of the latest available information from United States publications involving commodity protection throughout the growing and processing stages for each agricultural commodity.

We welcome the opportunity to join this cooperative effort between USDA and EPA in support of the national agricultural community.



JOSEPH H. HOWARD, Director
National Agricultural Library



DOUGLAS D. CAMPT, Director
Office of Pesticide Programs

INTRODUCTION

The citations in this bibliography are selected from works by U.S. authors on all aspects of the protection of crops. All citations are derived from AGRICOLA (AGRICultural Online Access), the family of databases compiled by the National Agricultural Library and its cooperators.

This is the 12th bibliography included in a series of commodity-oriented environmental databases jointly sponsored by the National Agricultural Library, United States Department of Agriculture (USDA-NAL), and the Office of Pesticides Programs, Environmental Protection Agency (EPA-OPP). Additional volumes issued recently or planned for the immediate future concern protection of corn, soybeans, pome fruits, stone fruits, grain sorghum, rice, and peanuts.

Entries in the bibliography are subdivided into a series of subject headings used in the table of contents of the Bibliography of Agriculture and in the National Agricultural Library Catalog. Each citation appears under the subject heading assigned to the particular item. A complete author index is also included in the publication.

The Office of Pesticide Programs, EPA, has furnished technical assistance to the compiler through members of a commodity-oriented environmental data team which included:

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RESEARCH

0001

The design of research and topics on cover crop uses (Mulch crops, minimum tillage systems).
Madar, R.U. Corvallis, Or. : International Plant Protection Center, Oregon State University, 1982. Crop production using cover crops and sods as living mulches : workshop proceedings / edited by J.C. Miller and S.M. Bell. p. 98-120. Includes references. (NAL Call No.: S661.5.C7).

METEOROLOGY AND CLIMATOLOGY

0002

Long term weather records to assess best management practices (Soil erosion, storm magnitude, no-till practices, Michigan).
Gold, A.J. Loudon, T.; Nurnburger, F.V. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1984. Paper presented at the 1984 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1984. (fiche no. 84-2043). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

0003

Soil frost penetration under conventional and conservation tillage (Factors contributing to soil erosion, Oregon).
Greenwalt, R.N.OASPA. Pikul, J.L. Jr.; Zuzel, J.F. Corvallis : The Station. Special report - Agricultural Experiment Station, Oregon State University. June 1983. Report of Columbia Basin agricultural research. June 1983. (680). p. 20-23. ill. Includes references. (NAL Call No.: 100 DR3M).

EDUCATION AND TRAINING NOT EXTENSION

0004

Obstacles to adoption of conservation tillage.
Nowak, P.J. JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: Effectively promoting the use of conservation tillage requires a look at the adoption process through the eyes of the farmer. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 162-165. Includes 12 references. (NAL Call No.: 56.8 J822).

0005

Sharing conservation tillage information.
Lake, J.E. JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: A new center for collecting and distributing information on conservation tillage began operation in January 1983. Establishment of the center resulted from the recognition that a gap exists with respect to the flow of information between the private and public sectors. The center's goal is to fill that gap by serving as a clearinghouse to help increase the flow of information from agricultural leaders in both the public and private sectors to farmers and those agencies, institutions, organizations, and industries that assist them daily. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 158-159. (NAL Call No.: 56.8 J822).

0006

Students build land lab with community help (To develop knowledge and skills in land management, soil conservation, tillage, Frederick County, Maryland).
Talbert, G.F. Washington : The Service. Soil & water conservation news - United States Dept. of Agriculture, Soil Conservation Service. Feb 1983. v. 3 (11). p. 8. (NAL Call No.: aS622.S6).

U.S. EXTENSION SERVICES

0007

Annotated bibliography of selected extension publications, conservation tillage /by J.W. Bauder. -.

Bauder, J. W. Washington, D.C.? : Conservation Tillage Information Center ; Fort Wayne, Ind. (2010 Inwood Dr., Fort Wayne 46815) : Available from Conservation Tillage Information Center, 1984. Cover title: Cooperative extension publications on conservation tillage, an annotated bibliography.~ "A special project of the National Association of Conservation Districts."~ "This publication was produced as a cooperative effort of the Montana Cooperative Extension Service, the Minnesota Agricultural Extension Service, the Extension Service-USDA and the Conservation Tillage~ "July 1984.". 84 p. ; 28 cm. (NAL Call No.: DNAL Z5074.S65B37).

0008

Can Lo-till fill the bill? (Wheat production, cost reductions, minimum tillage Extension programs, Oklahoma).

Crummett, D.M. Washington : The Administration. Extension review - United States Department of Agriculture, Science and Education Administration. Spring 1983. v. 54 (2). p. 16-17. ill. (NAL Call No.: 1 EX892EX).

0009

Nebraska producers break tradition (Conservation tillage methods to reduce soil erosion, Cooperative Extension programs).

Dickey, E.C. Washington : The Administration. Extension review - United States Department of Agriculture, Science and Education Administration. Spring 1983. v. 54 (2). p. 24-25. ill. (NAL Call No.: 1 EX892EX).

0010

No-till field day draws a crowds (Milan Agricultural Experiment Station, Tennessee).

Dyer, E.B. McCutchen, T. Washington : The Service. Soil & water conservation news - United States Dept. of Agriculture, Soil Conservation Service. May 1983. v. 4 (2). p. 4. ill. (NAL Call No.: aS622.S6).

ADMINISTRATION

0011

How California cotton producers are beating the cost-price squeeze (Narrow-row cotton, minimum tillage, once-over harvest machines, movable module builders).

Drum, D. Apr 1979. v. 94 (4). Progressive farmer for the West. Apr 1979. v. 94 (4). p. 47N-48N. ill. (NAL Call No.: 6 T311).

0012

Remarks prepared for delivery by Secretary of Agriculture John R. Block before the National Association of Conservation Districts Board of Directors meeting, Washington, D.C., March 21, 1983 (USDA soil conservation programs, erosion control, conservation tillage, cross-compliance).

Block, J.R. Washington : The Office. Major news releases and speeches - United States Department of Agriculture, Office of Governmental and Public Affairs. Mar 18/25, 1983. Mar 18/25, 1983. p. 1-6. (NAL Call No.: aS21.A8U51).

LEGISLATION

0013

Furrow opener and apparatus for no-tillage transplanter and planters (Consists of automatic seedling planting mechanism, driving means, towing means, farm machinery; citation only).

Morrison, J.E. Jr. USDA. Abrams, C.F. Jr. Washington, D.C., The Office. United States patent - United States Patent Office. Feb 27, 1979. Copies of USDA patents are available for a fee from the Commissioner of Patents and Trademarks, U.S. Patents and Trademarks Office, Washington, D.C. 20231. Feb 27, 1979. (4,141,302). 15 p. ill. 24 ref. (NAL Call No.: No Call No. (PAT)).

0014

Soil degradation and land use changes: A representative-farm analysis Illinois Soil Erosion and Sedimentation Control Act of 1977, Federal Water Pollution Control Act Amendments of 1972 .

JSWCA3. Kraft, S.E. Toohill, T.L. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Sept/Oct 1984. v. 39 (5). p. 334-338. Includes 13 references. (NAL Call No.: DNAL 56.8 J822).

0015

Soil erosion on new cropland: a sodbusting perspective.

JSWCA3. Heimlich, R.E. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. July/Aug 1985. v. 40 (4). p. 322-326. ill., maps. Includes 17 references. (NAL Call No.: DNAL 56.8 J822).

ECONOMICS, DEVELOPMENT, RURAL SOCIOLOGY

0016

**Socioeconomic aspects of no-tillage
agriculture.**

Choi, Hyup. Lexington, Ky. College of
Agriculture, Agricultural Experiment Station,
Dept. of Sociology 1979. 36 p. -. Bibliography:
p. 33-34. (NAL Call No.: 275.29 K4152 No.63).

ECONOMICS

0017

The adoption of reduced tillage: the role of human capital and other variables.

Rahm, M.R. Huffman, W.E. Ames, Iowa : American Agricultural Economics Association. Extract: This paper presents a model of adoption behavior and explains differences econometrically in farmers' decisions to adopt reduced-tillage practices and in the efficiency of farmers' adoption decisions. The empirical results, obtained from microdata, show that the probability of adopting reduced tillage in corn enterprises differs widely across farms and depends on soil characteristics, cropping systems, and size of farming operation. The results also show that farmers' schooling enhances the efficiency of the adoption decision. American journal of agricultural economics. Includes statistical data. Nov 1984. v. 66 (4). p. 405-413. Includes 26 references. (NAL Call No.: DNAL 280.8 J822).

0018

Conservation-tillage research in interior Alaska.

Lewis, C.E. AGBOB. Fairbanks : The Station. Extract: The objective of conservation tillage in the Delta-Clearwater area is to study soil-management systems which minimize soil and water erosion, are consistent with good weed control, maintain adequate soil moisture, and allow the soil to warm up early enough in the spring to produce satisfactory yields. Agroborealis - Alaska Agricultural Experiment Station, Fairbanks. Jan 1983. v. 15. p. 4-10. Includes 7 references. (NAL Call No.: S33.E2).

0019

Costs and returns of irrigated multiple-crop production in the Georgia coastal plain /by Bernard V. Tew... et al. . -.

Tew, Bernard V. Athens, Ga. : Division of Agricultural Economics, College of Agriculture, University of Georgia, 1982. Chiefly tabular data. 211 leaves : map ; 29 cm. -. Bibliography: leaf 13. (NAL Call No.: DNAL HD1775.G4G42 no.82-3).

0020

Costs and returns of irrigated multiple-crop production in the Georgia coastal plain, 1982 /by G. Scott Smith ... et al. . -.

Smith, G. Scott. Athens, Ga. : Department of Agricultural Economics, University of Georgia, 1984. Chiefly tables.~ Bibliography: p. 15. 123 leaves : map ; 28 cm. -. (NAL Call No.: DNAL HD1775.G4G42 no.84-2).

0021

Costs and returns of irrigated multiple-crop production in the Georgia Coastal Plains, 1980- / by Bernard V. Tew ... (et al.).

Tew, Bernard V. (Athens, Ga.) Division of Agricultural Economics, College of Agriculture, University of Georgia 1983. v. : map ; 29 cm. -. Includes bibliographies. (NAL Call No.: HD1775.G4G42 no.83-2 etc.).

0022

Costs and returns of irrigated multiple-crop production in the Georgia Coastal Plains, 1980- / by Bernard V. Tew ... (et al.).

Tew, Bernard V. (Athens, Ga.) Division of Agricultural Economics, College of Agriculture, University of Georgia 1983. v. : map ; 29 cm. -. Includes bibliographies. (NAL Call No.: HD1775.G4G42 no.83-2 etc.).

0023

Costs and returns of irrigated multiple-crop production of corn grain, grain sorghum and corn silage in the Georgia coastal plains / by Bernard V. Tew ... (et al.).

Tew, Bernard V. (Athens) Division of Agricultural Economics, College of Agriculture, University of Georgia (1980?). "April, 1980". 89 leaves ; 28 cm. -. Includes bibliographical references. (NAL Call No.: HD1775.G4G42 no.80-1).

0024

An economic analysis of reduced tillage systems in corn and soybean production.

Klemme, R.M.JFMRA. Denver : The Society. Journal of the American Society of Farm Managers and Rural Appraisers. Oct 1983. v. 47 (2). p. 37-44. ill. Includes references. (NAL Call No.: 281.8 AM32).

0025

Economic returns from alternative corn and soybean tillage systems in Indiana.

Doster, D.H.JSWCA3. Griffith, D.R.; Mannering, J.V.; Parsons, S.D. Ankeny, IA : Soil Conservation Society of America. Extract: On the major cropland soils in Indiana, net returns from alternative corn and soybean tillage systems varied \$20 to \$40 per acre. The variations related to both yields and cost differences. The till-plant system produced net returns equal to or greater than other systems on all soil groups. The no-till system produced net returns comparable to those with the till-plant system on well-drained, sloping soils. However, no-till returns were unfavorable compared with most other systems on other soils. Journal of soil and water conservation. Nov-Dec 1983. v. 38 (6). p. 504-508. Includes 8 references. (NAL Call No.:

56.8 J822).

0026

Estimation of multicrop production functions.

Just, R.E. Zilberman, D.; Hochman, E. Ames, Iowa : American Agricultural Economics Association. Extract: This paper considers whether separability or nonjointness is the better approach for attaining tractability for multicrop production function estimation. Characteristics of agricultural production associated with allocated inputs, physical constraints, and output determination imply sufficient nonjointness for estimation, whereas separability is less plausible. The paper also addresses estimation of production functions with allocated inputs where allocations are not observed and demonstrates a proposed approach by way of example. American journal of agricultural economics. Nov 1983. v. 65 (4). p. 770-780. Includes 18 references. (NAL Call No.: 280.8 J822).

0027

No-tillage agriculture.

Phillips, R.E. Blevins, R.L.; Thomas, G.W.; Frye, W.W.; Phillips, S.H. Washington, D.C., American Association for the Advancement of Science. Science. June 6, 1980. v. 208 (4448). p. 1108-1113. 11l. 32 ref. (NAL Call No.: 470 SCI2).

0028

Reasons why Ohio farmers decide for or against conservation tillage.

Ladewig, H.JSWCA3. Garibay, R. Ankeny, IA : Soil Conservation Society of America. Extract: A survey of 1,200 Ohio farmers showed that 43 percent used conservation tillage practices. Those farmers who chose to use conventional tillage practices did so primarily because they lacked knowledge about conservation tillage practices and because they lacked conservation tillage equipment. Secondary reasons for the use of conventional tillage practices included existing farm conditions and previous experiences with conservation tillage. Decisions to use conservation tillage were based primarily on farmers' concern for the environment and availability of equipment. Economy was a secondary reason. Timely advice appeared to be key to adoption of conservation tillage. Journal of soil and water conservation. Nov-Dec 1983. v. 38 (6). p. 487-488. Includes 3 references. (NAL Call No.: 56.8 J822).

0029

Selling conservation tillage.

Ankeny, IA : Soil Conservation Society of America. Extract: Includes 18 brief articles that examine various aspects of conservation tillage. Examples of its introduction and adoption in different regions of the United States are also included. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 169-181. (NAL Call No.: 56.8 J822).

0030

Use and cost of soil conservation and water quality practices in the Southeast.

Russell, J.R. Christensen, L.A. Washington, D.C. : The Service. Extract: The most frequently used conservation practices in the Southeast are terracing, sod waterways, permanent vegetative cover crops, and conservation tillage. Costs of terracing per acre ranged from \$125 in Kentucky to \$17 in South Carolina. Sod waterway costs ranged from \$1,854 in Kentucky to \$858 in Tennessee. Permanent vegetative cover costs ranged from a high of \$121 in South Carolina to a low of \$73 in North Carolina. Conservation tillage costs ranged from a high of \$48 per acre in Florida to a low of \$9 in Tennessee. ERS staff report - United States Dept. of Agriculture, Economic Research Service. Feb 1984. Available from NTIS, order no. PB84-161173. Feb 1984. (AGES831928). 19 p. Includes 16 references. (NAL Call No.: 916762(AGE)).

LAND ECONOMICS

0031

Assessing the potential for conservation tillage: a case study in the Maple Creek watershed.

Cosper, H.R. Erickson, M.W.; Hoover, H. Washington, D.C. : The Service. Extract: A case study of the selected areas shows about 95 percent of the soils are suitable for all forms of conservation tillage. Critical erosion areas are lands of 12 to 13 percent slope. These lands comprise one-fourth of the land but contribute over half the total sediment. Preharvest costs are shown for four tillage methods. Labor, energy and other inputs for reduced, no-till and conventional tillage are compared for nonirrigated corn production. Major obstacles to adoption prior to the project were low perceptions of major erosion problems and low cost-share rates. Most operators were using some non-cost shared practices. ERS staff report - United States Dept. of Agriculture, Economic Research Service. Jan 1983. Available from NTIS, order no PB83-209296. Jan 1983. (AGES821231). 34 p. Includes 11 references. (NAL Call No.: 916762(AGE)).

0032

A comparison of tillage systems for reducing soil erosion and water pollution.

Christensen, L.A. Norris, P.E. Washington, D.C. : The Department. Extract: Cropland in minimum tillage rose from 15.8 percent of all cropland in 1973 to 29.1 percent in 1981. The share for no-till rose from 2.0 to 2.9 percent during the same period. These conservation tillage systems--minimum tillage and no-till--can also reduce soil loss up to 99 percent over conventional tillage. This report looks at trends in the use of various tillage systems and compares their economic impacts and effects on soil and water conservation, crop yields, and pesticide and energy use, using selected results from studies of tillage systems. Agricultural economic report - United States Dept. of Agriculture. May 1983. Available from NTIS, order no. PB83-209866. May 1983. (499). 27 p. Includes 68 references. (NAL Call No.: A281.9 AG8A).

0033

Conservation tillage in Ontario.

Ketcheson, J.W. JSWCA. Stonehouse, D.P. Ankeny, IA : Soil Conservation Society of America. Extract: Only a small portion of Canada's land area is suitable for agricultural production. Half of the agricultural capability class I land (no significant limitations for cropping) is in Ontario. Ontario farmers, therefore, have a responsibility to maintain these soils in a highly productive state in the interests of Canada's food sufficiency. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 253-254. Includes 6 references. (NAL Call No.: 56.8 J822).

0034

Conservation tillage: Marrying for money.

JSWCA3. Cook, K. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Oct/Nov 1984. v. 39 (6). p. 368-370. (NAL Call No.: DNAL 56.8 J822).

0035

Conservation tillage use.

Christensen, L.A. JSWCA. Magleby, R.S. Ankeny, IA : Soil Conservation Society of America. Extract: American farmers are changing the ways they till the soil. In the past decade, a shift has occurred from almost complete reliance on the moldboard plow and turning the soil each year to conservation tillage practices that disturb the soil less and leave more residue on the soil surface. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 156-157. (NAL Call No.: 56.8 J822).

0036

Cropland rental and soil conservation in the United States.

Bills, N.L. Washington, D.C. : The Department. Extract: Data from USDA's Resource Economics Survey challenge the common, but not well-substantiated, view that farmers are less concerned with erosion on land they rent than on land they own. At the national level, farmers' conservation efforts--as reflected in crop rotation, tillage practices, and use of conservation practices--on rented cropland compare favorably with those on owner-operated cropland. Nevertheless, rented land is subject to more erosion because a greater proportion of it is used to produce erosive row crops. Agricultural economic report - United States Dept. of Agriculture. Available from NTIS, order no. PB85-190973/AS. Mar 1983. (529). 13 p. Includes 26 references. (NAL Call No.: DNAL AGE A281.9 AG8A).

0037

Economics of agricultural erosion and sedimentation -- a selected literature review.

Dickason, C. Piper, D. Washington, D.C. : The Service. Extract: This study reviews selected literature from 1972 to 1981 dealing with economic analyses of alternative erosion and sedimentation control measures on agricultural lands. Fifty-four publications are reviewed with respect to their applicability in the economic evaluation of erosion and sedimentation in selected small areas. Those publications which were found to be the most helpful are more fully discussed in five study applications subsections which appear at the end of the major sections. The review was organized into seven major sections: introduction, related literature reviews, onfarm analysis, small area analysis, large area analysis, other studies, and conclusions

and recommendations. ERS staff report - United States Dept. of Agriculture, Economic Research Service. Apr 1983. Available from NTIS, order no. PB83-209213 ~Literature review. Apr 1983. (AGES830328). 52 p. Includes 54 references. (NAL Call No.: 916762(AGE)).

0038

Emergency tillage to control wind erosion: influences on winter wheat yields.

Lyles, L.JSWCA. Tatarko, J. Ankeny, IA : Soil Conservation Society of America. Extract: About 2.4 million hectares (6 million acres) are tilled on an emergency basis each year to control wind erosion in the Great Plains. Much of the tillage is done on fall-seeded winter wheat (*Triticum aestivum* L.). Emergency chiseling of growing winter wheat in Finney County, Kansas, during early March (1977-1981) did not significantly influence grain yields on a silty clay site, regardless of whether a 76- or 152-centimeter (30- or 60-inch) chisel spacing was used, whether 50 or 100 percent of the area was tilled, or whether tillage was parallel or perpendicular to row direction. Similar results were obtained in 3 or 4 years on a sandy loam site. Narrow-point chisels have potential for reducing wind erosion if soil conditions are conducive to producing nonerodible aggregates. Wheat straw/grain ratios, stalk diameters, and volume weights are important factors in determining what wind erosion protection the vegetation is able to provide. Journal of soil and water conservation. Nov-Dec 1982. v. 37 (6). p. 344-347. Includes 11 references. (NAL Call No.: 56.8 J822).

0039

Energy implications of conservation tillage.

Lockeretz, W.JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: The deterioration in the nation's energy situation that began in the early 1970s made conservation tillage attractive because of the lower fuel requirements. Farmers annually consume about 2 billion gallons of fuel for tillage and related operations, including cultivation and planting. The cost of this fuel, now somewhat over \$2 billion a year, could be cut appreciably with alternative tillage methods. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 207-211. Includes 33 references. (NAL Call No.: 56.8 J822).

0040

Impact of tenure status on economic incentives for conservation tillage.

Hinman, H.R.JSWCA. Mohasci, S.G.; Young, D.L. Ankeny, IA : Soil Conservation Society of America. Extract: The cost of conservation tillage practices and the design of typical farm lease contracts in the Palouse region of Washington and Idaho create conflict in the economic incentives for adoption of

conservation tillage between tenant operators and landlords. Interests of both operators and landlords must be considered in designing programs that involve incentives to practice conservation. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 287-290. Includes 8 references. (NAL Call No.: 56.8 J822).

0041

Impacts of productivity loss on crop production and management in a dynamic economic model.

Miranowski, J.A. Ames, Iowa : American Agricultural Economics Association. Extract: This article finds the optimal choice of tillage method and crop rotation for farmers who correctly anticipate the yield-decreasing effects of soil erosion. Expected increases in crop prices lead to farming practices that are more conservation oriented. Higher relative prices for hay also lead to more soil conservation. A linear programming model of soil loss is presented for a watershed in Tama County, Iowa. American journal of agricultural economics. Feb 1984. v. 66 (1). p. 61-71. Includes 20 references. (NAL Call No.: 280.8 J822).

0042

The influence of technological progress on the long run farm level economics of soil conservation.

Taylor, D.B. Young, D.L. Lincoln, Neb. : Western Agricultural Economics Association. Extract: The complementary interaction between topsoil depth and technical progress for winter wheat in the Palouse region was found to strengthen the long run payoff to conservation tillage. Nonetheless, conservation tillage was found to be competitive with conventional tillage only if its current yields disadvantages were eliminated. Conservation tillage was relatively more competitive on shallower topsoils and for longer planning horizons. Short-term subsidies coupled with research directed towards reducing the cost and yield disadvantages of conservation tillage in the Palouse were advocated to maintain long-term soil productivity. Western journal of agricultural economics. Literature review.~ Includes statistical data. July 1985. v. 10 (1). p. 63-76. Includes 33 references. (NAL Call No.: DNAL AGE HD1750.W4).

0043

Irrigation + dryland farming + limited tillage: a profitable combination.

Wiese, A.F.JSWCA. Unger, P.W. Ankeny, IA : Soil Conservation Society of America. Extract: The area of irrigated land will diminish in the future because the underground water supply is being depleted and fuel costs (primarily natural gas) to pump water are increasing. As fuel costs rise, the profitability of irrigation can be maintained only by producing

(LAND ECONOMICS)

more crop per unit of water. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 233-237. Includes 15 references. (NAL Call No.: 56.8 J822).

0044

Land tenure and adoption of conservation tillage.

Lee, L.K.JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: Land tenure arrangements are thought to affect adoption of conservation practices generally. But what relationships are there between land tenure and the adoption of conservation tillage specifically? If significant differences in conservation tillage adoption occur among tenure groups, public policies could be developed accordingly to encourage the use of conservation tillage. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 166-169. Includes 19 references. (NAL Call No.: 56.8 J822).

0045

Landownership and the adoption of minimum tillage.

Lee, L.K. Stewart, W.H. Ames, Iowa, American Agricultural Economics Association. Extract: Full-owner operators and landowners with small holdings have lower minimum tillage adoption rates on cultivated cropland than do other landownership groups after accounting for land quality and regional location. Nonfamily corporate structure does not significantly influence the adoption decision. These conclusions about minimum tillage adoption were obtained from a logit model using 7,649 cultivated cropland observations from across the United States. This study indicates that small operating size poses more of an obstacle to minimum tillage adoption than does separation of ownership from farm operation. American journal of agricultural economics. May 1983. v. 65 (2). p. 256-264. Includes 22 references. (NAL Call No.: 280.8 J822).

0046

No-till technology: impacts on farm income, energy use and groundwater depletion in the Plains.

Harman, W.L. Hardin, D.C.; Wiese, A.F.; Unger, P.W.; Musick, J.T. Lincoln, Neb. : Western Agricultural Economics Association. Extract: Rapidly rising fuel costs for irrigation and tillage, combined with groundwater depletion, confront producers in the Great Plains. Maintaining profits while production costs escalate and water levels decline emphasizes the need to increase water and energy use efficiency. A linear programming analysis for a ten-year period comparing conventional tillage practices with no-till practices based on an irrigated wheat/no-till feedgrain/fallow crop rotation indicates no-till increases both water and energy use efficiency. Returns to land,

management, and risk are substantially higher using no-till practices. Western journal of agricultural economics. Literature review. July 1985. v. 10 (1). p. 134-146. Includes 27 references. (NAL Call No.: DNAL AGE HD1750.W4).

0047

Obstacles to adoption of conservation tillage.

Nowak, P.J.JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: Effectively promoting the use of conservation tillage requires a look at the adoption process through the eyes of the farmer. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 162-165. Includes 12 references. (NAL Call No.: 56.8 J822).

0048

Pennsylvania farmland prices as a function of land quality and distance from metropolitan areas.

Downing, R.H. Gamble, H.B. College Park, Md. : The Council. Extract: Data on 268 farm sales in 10 counties throughout Pennsylvania in 1977 were analyzed using a hedonic price model. Problems associated with the influence of parcel size and buildings on per acre land values appear to have been overcome. Proximity of farms to metropolitan centers and the quantities of different types of land on a farm were important explanatory variables. Values per acre were computed showing the effects of those variables on price. Values for nontillable land, high productivity tillable land, and land suitable for on-site sewage disposal tended to cluster within a \$650-\$700 price range per acre at 85 miles for the nearest SMSA. Journal - Northeastern Agricultural Economics Council. 1983. v. 12 (1). p. 67-74. Includes 10 references. (NAL Call No.: HD1773.A2N6).

0049

Sharing conservation tillage information.

Lake, J.E.JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: A new center for collecting and distributing information on conservation tillage began operation in January 1983. Establishment of the center resulted from the recognition that a gap exists with respect to the flow of information between the private and public sectors. The center's goal is to fill that gap by serving as a clearinghouse to help increase the flow of information from agricultural leaders in both the public and private sectors to farmers and those agencies, institutions, organizations, and industries that assist them daily. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 158-159. (NAL Call No.: 56.8 J822).

0050

Soil erosion and conservation in Monroe County, Missouri: farmers' perceptions, attitudes, and performances.

Ervin, D.E. Alexander, C.T. Columbia, Missouri, The Department. Paper - University of Missouri-Columbia, Dept. of Agricultural Economics. Feb 10, 1981. Feb 10, 1981. (1981-10). 52 p. 6 ref. (NAL Call No.: 917437(AGE)).

0051

Soil erosion on new cropland: a sodbusting perspective.

JSWCA3. Heimlich, R.E. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. July/Aug 1985. v. 40 (4). p. 322-326. ill., maps. Includes 17 references. (NAL Call No.: DNAL 56.8 J822).

0052

Soil suitability for conservation tillage.

Cosper, H.R.JSWCA. Ankeny, IA : Soil Conservation Society of America. Extract: Soil taxonomy, which is the classification of soils based upon qualities and characteristics, offers one means of predicting how soils might react under various forms of conservation tillage. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 152-155. Includes 29 references. (NAL Call No.: 56.8 J822).

0053

Trends in conservation tillage use.

JSWCA3. Magleby, R. Gadsby, D.; Colacicco, D.; Thigpen, J. Ankeny, Iowa : Soil Conservation Society of America. Extract: A recent U.S. Department of Agriculture (USDA) survey of more than 11,000 farmers nationwide--the 1983 Farm Production Expenditure Survey (FPES) conducted in the spring of 1984--provided some national and regional insights into the use of conservation tillage practices. Covered were such aspects as the extent and location of use, crops grown, size of farm, cropland slope, tenure, reasons given for use of conservation tillage, and government assistance received. Journal of soil and water conservation. Includes statistical data. May/June 1985. v. 40 (3). p. 274-276. Includes 1 references. (NAL Call No.: DNAL 56.8 J822).

0054

Water quality consequences of conservation tillage.

Baker, J.L.JSWCA. Laflen, J.M. Ankeny, IA : Soil Conservation Society of America. Extract: Conservation tillage, which leaves some or all of the residue from the previous crop on the soil surface, effectively protects the soil

against erosion. Use of conservation tillage has other environmental implications as well, particularly for water quality. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 186-193. Includes 53 references. (NAL Call No.: 56.8 J822).

0055

Why conservation tillage.

Myers, P.C.JSWCA. Ankeny, IA : Soil Conservation Society of America. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 136. (NAL Call No.: 56.8 J822).

ECONOMICS OF AGRIC. PRODUCTION

0056

Costs and returns of irrigated multiple-crop production of corn grain, grain sorghum and corn silage in the Georgia Coastal Plains.
Tew, B.V. Clifton, I.D.; Epperson, J.E.;
Musser, W.N. Athens, The Department. Faculty series FS - Georgia, University, Department of Agricultural Economics. Apr 1980. Apr 1980. (80-1). 89 p. 6 ref. (NAL Call No.: HD1775.G4G42).

0057

Economic impact of conservation tillage in Michigan (Erosion and runoff control).
Muhtar, H.A. Black, J.R.; Burkhardt, T.H.; Christenson, D. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-1033). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

0058

Economics of no-till wheat production.
Bauder, J.W. Bozeman, Mont. : The Service. Montguide MT : Agriculture - Montana State University, Cooperative Extension Service. Feb 1983. (8306). 3 p. Includes 4 references. (NAL Call No.: DNAL S544.3.M9M65).

0059

No-till crop production systems in North Carolina--corn, soybeans, sorghum, and forages.
Lewis, W.M. (ed.). Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. Feb 1985. (273). 24 p. ill. Includes references. (NAL Call No.: DNAL S544.3.N6N62).

FARM ORGANIZATION AND MANAGEMENT

0060

Budgetary analysis of returns from irrigated vegetable production in Georgia (Multiple crop farming, yields, economic outlook).
Alexander, V.J. Tew, B.V.; Smittle, D.A.; Musser, W.N.; Epperson, J.E.; Mizelle, W.D. Jr. Athens, Ga. : The Stations. Research report - University of Georgia, College of Agriculture, Experiment Stations. Aug 1984. Aug 1984. (454). 63 p. ill. Includes 11 references. (NAL Call No.: S51.E22).

0061

Conservation till: short-run cost for long-run savings.
CRSOA. Madison, Wis. : American Society of Agronomy. Crops and soils magazine. Nov 1984. v. 37 (2). p. 26-27. (NAL Call No.: DNAL 6 W55).

0062

Cost comparisons for alternative tillage practices in western Whitman County.
Hinman, H.R. Engle, C.F.; Erickson, D.H.; Willett, G.S. Pullman, Wash., The Service. Extract: This publication presents projected 1981 cost information for a summer fallow-winter wheat rotation grown in western Whitman County under a conventional tillage scheme used by farmers in this area and under an increased soil conserving tillage scheme being practiced by a few farmers. Extension bulletin - Washington State University, Cooperative Extension Service. Apr 1981. Predominantly tables. Apr 1981. (0840). 9 p. (NAL Call No.: 275.29 W27P).

0063

Cost of alternative tillage practices, central Whitman County, Washington.
Hinman, H.R. Engle, C.F.; Erickson, D.H.; Willett, G.S. Pullman, Wash., The Service. Extract: This bulletin presents projected 1981 cost information for a spring barley-summer fallow-winter wheat rotation under two tillage schemes: 1) a conventional scheme currently being practiced by many farmers in this area; and 2) a soil conserving scheme being practiced by a few farmers in the area. A cost comparison is also made between no-till barley and conventional and conservation barley tillage. Extension bulletin - Washington State University, Cooperative Extension Service. Apr 1981. Apr 1981. (0850). 19 p. (NAL Call No.: 275.29 W27P).

0064

Cost of alternative tillage systems in the winter wheat-dry pea area of the Palouse.
Mohasci, S.G. Hinman, H.R. Pullman, Wash., The Service. Extract: Costs and soil loss were determined for six tillage systems used in the dry pea-winter wheat area of the Palouse. No-till tillage saved the most topsoil, but had the highest crop-cycle costs, due to increased chemical costs. The system with the lowest costs used a cultivator for the initial tillage and saved nearly as much topsoil. Three other systems saved considerable amounts of topsoil when compared with moldboard plow tillage and had intermediate two-year costs. Extension bulletin - Washington State University, Cooperative Extension Service. Aug 1981. Aug 1981. (0943). 38 p. (NAL Call No.: 275.29 W27P).

0065

Costly energy, lower chemical costs will favor less tillage (Savings in field preparation costs for no-till corn and soybeans, costs and returns, United States).
Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. June 1984. v. 13 (6). p. 4. ill. (NAL Call No.: S604.N6).

0066

Costs and returns for producing irrigated and dryland crops under conservation tillage systems in the High Plains, New Mexico, 1982 / Robert R. Lansford ... (et al.).
Lansford, Robert R. Las Cruces New Mexico State University, Agricultural Experiment Station 1983. Caption title. 78 p. : ill., map ; 27 cm. -. Bibliography: p. 27-28. (NAL Call No.: 100 N465R no.502).

0067

Costs and returns of irrigated multiple-crop production of corn grain, grain sorghum and corn silage in the Georgia Coastal Plains.
Tew, B.V. Clifton, I.D.; Epperson, J.E.; Musser, W.N. Athens, The Department. Faculty series FS - Georgia, University, Department of Agricultural Economics. Apr 1980. Apr 1980. (80-1). 89 p. 6 ref. (NAL Call No.: HD1775.G4G42).

0068

The economics of terracing in Iowa.
Krog, D.R. English, B.C.; Schatzer, R.J.; Heady, E.O. Ames, Iowa : The Center. Extract: The general purpose of this study is to determine, from a farmer's perspective, the economic feasibility of terracing in Iowa compared to other means of controlling soil erosion. Specific objectives are: (1) To determine the break-even costs for terracing on

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different Iowa soils under various farm situations. (2) To determine on which soils and under what economic conditions terraces are an economical practice for a farmer. (3) To compare the economics of terracing to that of other conservation practices such as reduced tillage practices, less intense crop rotations, contouring, and strip cropping. CARD report - Iowa State University, Center for Agricultural and Rural Development. Jan 1984. Includes Appendix of tables of costs and profit data, p. 108-164. Jan 1984. (123). 164 p. Includes 28 references. (NAL Call No.: 281.9 I093).

0069

An economic analysis of soil erosion control in a watershed representing corn belt conditions. Nelson, M.C. Seitz, W.D. Urbana, Ill., Illinois University. Dept. of Agricultural Economics. Extract: The economic impacts of soil erosion control and nitrogen use controls at the farm and watershed levels of aggregation are presented. A multiple-farm-level linear programming model of the production of crops in five-year rotations is used. The model, constructed to represent a 100-year period, gives estimates of the impacts of soil loss and nitrogen use controls at the farm and watershed levels of aggregation over time. Estimates of the impacts on crop selections, soil losses, conservation, and tillage practices and net incomes at the farm and watershed levels are presented. North Central journal of agricultural economics. July 1979. v. 1 (2). p. 173-186. 13 ref. (NAL Call No.: HD1773.A3N6).

0070

The economic and environmental impacts of an ethanol industry on Western New York. Gould, B.W. College Park, Md. : The Council. Extract: This paper examines the economic, environmental and energy use impacts of a corn based ethanol industry on Western New York State. A regional linear programming model is used. Five representative farm groups are used to describe the agricultural sector of the study region. Comparisons are made between a benchmark solution and model formulations that include conservation tillage practices, ethanol induced feed price changes, and the feeding of the feed by-product, DDG. Journal - Northeastern Agricultural Economics Council. Fall 1982. v. 11 (2). p. 133-138. Includes 17 references. (NAL Call No.: HD1773.A2N6).

0071

An economic comparison of conservation tillage systems.

Jose, H. Doug. 1981. This publication gives summary of analyzed tillage systems and operations of each system. Document available from: University of Nebraska-Lincoln, Dept. of Agricultural Communications, Lincoln, Nebraska 68583. 4 p. (NAL Call No.: Not available at NAL.). (NAL Call No.: G81-577).

0072

An economic examination of an integrated pest management production system with a contrast between E-V and stochastic dominance analysis. Musser, W.N. Tew, B.V. Epperson, J.E. Gainesville, Fla., Southern Agricultural Economics Assoc. Extract: A multiple-crop integrated pest management production system incorporating agronomic and horticultural crops is examined within an E-V and a stochastic dominance framework. The data were from a five-year experiment in Tifton, Georgia. Irrigation and chemigation for the system are provided by a center-pivot irrigation system. The study concludes that, within the range of pest thresholds examined, less intensive pest control would be preferred by risk-averse producers and have lower pesticide usage. Southern journal of agricultural economics. July 1981. v. 13 (1). p. 119-124. 25 ref. (NAL Call No.: HD101.S6).

0073

Economic impact of conservation tillage in Michigan.

Muntar, H.A. Black, J.R.; Burkhardt, T.H.; Christenson, D. East Lansing, Mich., The Department. Extract: Conservation tillage has a distinct economic advantage over conventional tillage systems. Estimated costs per hectare were lower for four cropping sequences under three textures of well drained soil in the Southeast Saginaw Bay Watershed in Michigan. Agricultural economics staff paper - Michigan State University, Dept. of Agricultural Economics. June 27-30, 1982. Carries second series title: American Society of Agricultural Engineers Paper no. 82-1033. June 27-30, 1982. (82-57). 23 p. Includes 16 references. (NAL Call No.: 918134(AGE)).

0074

Economic impacts of different tillage systems on net farm income and on soil loss.

Salem, M.A. Badger, D.D. Stillwater : The Station. Extract: This study analyzes the impacts of reduced tillage technology as a conservation practice to reduce soil erosion as compared with conventional tillage systems in eastern Oklahoma. Reduced tillage technology in this study refers to both minimum tillage and non-tillage. Minimum tillage refers to production systems that do not use the moldboard plow, that leave enough crop residue on the soil surface to reduce soil erosion, and which use herbicides for weed control. No-tillage practices refer to tillage systems that accomplish weed control with chemicals and where the soil is not tilled. Oklahoma current farm economics - Oklahoma, Agricultural Experiment Station. Dec 1983. v. 56 (4). p. 12-20. Includes 10 references. (NAL Call No.: 100 OK4 (5)).

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0075

Economic potential of conservation tillage in Iowa (Conventional, reduced and slot-planting, comparison).

Hamlett, C.A.TAAEA. Colvin, T.S.; Musselman, A. St. Joseph : The Society. Transactions of the ASAE - American Society of Agricultural Engineers. May/June 1983. v. 26 (3). p. 719-722, 727. Includes references. (NAL Call No.: 290.9 AM32T).

0076

Economic potential of irrigated multiple crop production in the coastal plain of Georgia.

Tew, B.V. Musser, W.N.; Robertson, J.D. Athens, Ga. : The Stations. Research report - University of Georgia, College of Agriculture, Experiment Stations. Dec 1982. Dec 1982. (412). 17 p. Includes 21 references. (NAL Call No.: S51.E22).

0077

Economic results of pest control intensity for a multiple cropping system (Turnip greens, Zea mays, southern peas, Vigna unguiculata, net returns, United States).

Epperson, J.E. Dowler, C.C.; Chalfant, R.B.; Johnson, A.W.; Glaze, N.C.; Sumner, D.R. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1982. v. 107 (4). p. 624-627. 19 ref. (NAL Call No.: 81 S012).

0078

Economics of conservation tillage in Iowa.

Pope, C.A. IIJSWCA3. Bhide, S.; Heady, E.O. Ankeny, IA : Soil Conservation Society of America. Extract: Conservation tillage systems, in a study using linear programming models, were shown to be economically viable methods of reducing soil erosion in Iowa. In cases where yields remained the same under conservation tillage, net returns to farming sometimes rose as a result of the switch from conventional tillage to conservation tillage. In cases where a reasonable reduction in yields was assumed under conservation tillage, soil erosion was still controlled most economically by conservation tillage systems. Journal of soil and water conservation. July-Aug 1983. v. 38 (4). p. 371-373. Includes 11 references. (NAL Call No.: 56.8 J822).

0079

Economics of conservation tillage in Iowa.

Jolly, R.W.JSWCA. Edwards, W.M.; Erbach, D.C. Ankeny, IA : Soil Conservation Society of America. Extract: Farm-level risks and returns were examined for corn and soybeans grown in rotation using three conservation tillage systems. A conventional moldboard plow system

served as a benchmark. Potential economic incentives and barriers to adoption of conservation tillage were identified and measured. Short-run economic criteria favored conventional and full-width tillage systems. Higher residue systems were competitive after real-location of labor and capital. Results indicate that short-run economic penalties may inhibit adoption of conservation tillage. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 291-294. Includes 5 references. (NAL Call No.: 56.8 J822).

0080

Economics of conservation tillage systems for winter wheat production in Oklahoma.

Epplin, F.M.JSWCA. Tice, T.F.; Handke, S.J.; Peeper, T.F.; Krenzer, E.G. Jr. Ankeny, IA : Soil Conservation Society of America. Extract: Alternative conservation tillage systems that rely on herbicides rather than mechanical tillage for weed control in annual winter wheat production in Oklahoma were investigated by an interdisciplinary team. The additional costs of the herbicides required for the experimental systems exceeded the value of the fuel and labor saved. However, most conservation tillage systems required less investment in machinery and some proved competitive with conventional systems on a total cost basis. Combination systems in which half the farm was conventionally tilled did not generate substantial savings in machinery investment. Journal of soil and water conservation. May-June 1983. v. 38 (3). p. 295-297. Includes 4 references. (NAL Call No.: 56.8 J822).

0081

Economics of new ways.

College Station, Tex. : Texas Water Resources Institute and Texas Agricultural Experiment Station. Water currents. Winter 1984. v. 3 (4). p. 4. 111. (NAL Call No.: DNAL S494.5.W3W34).

0082

Economics of no-till crop production.

Swenson, A.L. Johnson, R.G. Fargo, N.D. : The Station. Extract: When proper management has been utilized, spring seeded small grain yields under no-till are similar to conventional tillage yields. Costs of no-till on continuous cropping are slightly higher than production with conventional tillage practices when reductions are made in the amount of machinery owned. The high herbicide expenditures of complete chemical fallow presently make it economically uncompetitive with mechanical fallow. Substantial cost and labor distribution advantages of raising winter wheat in untilled seedbeds make it an attractive alternative to conventional spring seedings. Seeding directly into stubble provides a more favorable environment for overwinter survival, enabling winter wheat production in areas previously considered too risky. North Dakota farm

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research - North Dakota, Agricultural Experiment Station. Jan/Feb 1982. v. 39 (4). p. 14-17. Includes 8 references. (NAL Call No.: 100 N813B).

0083

Economics of winter cover crops as a source of nitrogen for no-till corn.

JSWCA3. Frye, W.W. Smith, W.G.; Williams, R.J. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Mar/Apr 1985. v. 40 (2). p. 246-249. Includes 11 references. (NAL Call No.: DNAL 56.8 J822).

0084

Estimates of operating cost differences between reduced and conventional tillage for continuous wheat production.

Epplin, F. Jobes, R.; Peeper, T.; Stiegler, J. Stillwater, Dkla., The Department. Extract: The purpose of this paper is to present comparisons of the operating costs of two "experimental" reduced tillage wheat production systems with the costs of a conventional clean tillage system. The conventional system is representative of current practices in north central Oklahoma. The reduced tillage systems have been proposed as technical alternatives to conventional practices. They reflect recent advances in grain drill modifications and weed control systems. A. E. paper - Oklahoma State University, Dept. of Agricultural Economics. Sept 1981. Sept 1981. (AE 8195). 10 p. 6 ref. (NAL Call No.: HD1775.D5D3).

0085

Evaluation of agricultural sediment control practices relative to water quality planning.

Robillard, P.D. Walter, M.F.; Hexem, R.W. Amherst, The Council. Extract: Control of sediment has become increasingly important as an element of many water quality improvement programs. An analytical method using the universal soil loss equation and linear programming to determine the cost-effectiveness of alternative sediment control practices is developed. Applications of this method to four case study farms and a hypothetical watershed are analyzed. The analyses illustrate the need for developing priorities so as to achieve greatest reduction in sediment losses per dollar of cost. The costs per unit of sediment reduction vary greatly with area, soil, and strategy or technique used. Journal - Northeastern Agricultural Economics Council. Apr 1980. v. 9 (1). p. 29-36. 10 ref. (NAL Call No.: HD1773.A2N6).

0086

Farmers' experience with no-till corn production in Ontario county, New York.

Wentzel, R. Robinson, K.L. Ithaca, N.Y. : The Station. A.E. Res. - New York State College of Agriculture and Life Sciences, Department of Agricultural Economics, Cornell University, Agricultural Experiment Station. Jan 1983. Jan 1983. (83-8). 20 p. Includes 22 references. (NAL Call No.: 281.9 C81A).

0087

Farmers' experiences with reduced tillage systems.

Hemmer, R.F. Forster, D.L. Columbus, The Service. Socio-economic information - Cooperative Extension Service, Ohio State Univ, Agricultural Economics and Rural Sociology. Aug 1981. Aug 1981. (636). p. 1-2. 1 ref. (NAL Call No.: 275.29 DH32TI).

0088

Getting conservation practices adopted: a farm manager's viewpoint.

Bennett, M. Columbia, Mo. : The Station. Special report - University of Missouri-Columbia, Agricultural Experiment Station. Nov 11-12, 1982. Nov 11-12, 1982. (290). p. 53-56. (NAL Call No.: S534.M8M5).

0089

Herbs as a small farm enterprise and the value of aromatic plants as economic intercrops.

Duke, J.A. Washington, D.C., The Department. Miscellaneous publication - United States Dept. of Agriculture. July 1982. July 1982. (1422). p. 76-83. 25 ref. (NAL Call No.: 1 AG84M).

0090

Impacts of reduced tillage on operating inputs and machinery requirements.

Epplin, F.M. Tice, T.F.; Baquet, A.E.; Handke, S.J. Ames, Iowa, American Agricultural Economics Association. Extract: In this paper we present some work regarding alternative tillage systems for wheat production in Oklahoma. We include a section describing the physical and economic environment which has prompted our efforts in this area. Other sections describe our approach to estimating resource requirements of alternative systems. American journal of agricultural economics. Dec 1982. v. 64 (5). p. 1039-1046. Includes 13 references. (NAL Call No.: 280.8 J822).

0091

Impacts of reduced tillage on operating inputs and machinery requirements: discussion.
Eleveld, B. Ames, Iowa, American Agricultural Economics Association. American journal of agricultural economics. Dec 1982. v. 64 (5). p. 1050-1052. Includes 4 references. (NAL Call No.: 280.8 J822).

0092

Income and risk associated with various pest management levels, tillage systems, and crop rotations: an analysis of experimental data.
Zavaleta, L.R. Eleveld, B.; Kogan, M.; Wax, L.; Kuhlman, D.; Lim, S.M. Urbana, Ill. : The Department. Extract: Budgets for producing and protecting corn and soybean crops were generated for three cropping systems using three levels of pest management and two tillage practices. The corn-soybean rotation produced higher yields and higher net returns than either the continuous corn or soybean cropping system, and it generally had the lowest risk for any of the tillage systems at each management level. Neither conventional nor reduced tillage appeared to dominate; neither did high, medium, or low chemical input dominate. AERR - University of Illinois, Department of Agricultural Economics. Apr 1984. Apr 1984. (191). 19 p. Includes 10 references. (NAL Call No.: 281.9 IL62).

0093

Inflation feeds intercropping--and some consequences (Almond tree cultivation, management).
Sacramento, California Almond Growers Exchange. Almond facts. May/June 1981. v. 46 (3). p. 17, 19-21. ill. (NAL Call No.: 280.28 AL62).

0094

Jojoba intercropping systems (Costs and returns).
Childs, P.C. Breen, R.E. Jr. Tucson, Office of Arid Lands Studies, University of Arizona. Jojoba happenings. Mar 1980. Mar 1980. (30). p. 8-10. ill. (NAL Call No.: SB299.J6J6).

0095

Looking back for new ideas (Reduced reliance on chemicals, reduced tillage, diversified cropping systems, alternative fuel use, less tractor power in U.S. agricultural production in the future).
Overland, Kan. : Intertec Publishing Corporation. Implement & tractor. Jan 1984. v. 99 (1). p. 11-17. (NAL Call No.: 58.8 W41).

0096

My experience with conservation by limited tillage.
Welsh, R. Columbia, Mo. : The Station. Special report - University of Missouri-Columbia, Agricultural Experiment Station. Nov 11-12, 1982. Nov 11-12, 1982. (290). p. 29-31. (NAL Call No.: S534.M8M5).

0097

No-till seeder cost.
Moore, J.M. Blacksburg : Extension Division, Virginia Polytechnic Institute and State University. Extract: Many farmers are interested in no-till grass or legume seeders....This publication looks solely at the ownership cost of a no-till seeder....The ownership cost of a no-till seeder depends upon several factors, many of which are unknown because it is so new....Two types of owners may wish to know their ownership cost. One is a farmer who plans to use the seeder himself and, perhaps also, to rent it to neighbors. The other is a public agency...that wants to rent the seeder to farmers. There is a difference in the cost calculations for these owners....Both options are shown. Publication - Extension Division, Virginia Polytechnic Institute and State University. Nov 1982. Predominantly tables. Nov 1982. (446-004). 8 p. (NAL Call No.: S544.3.V8V52).

0098

Pest management in experimental soybean cropping systems: a preliminary economic and risk analysis.
Zavaleta, L.R. Eleveld, B.; Starr, V.B.; Kogan, M.; Wax, L.; Helm, C.; Lim, S.M.; Kuhlman, D. Urbana, Ill. : The Department. Extract: Crop production-protection budgets for soybean were generated for three levels of pest management and two tillage practices. For the data analyzed, results indicated that high levels of pest management always resulted in a less risky alternative. Conversely, reduced tillage practices tended to increase the variability in yields and returns. Illinois agricultural economics staff paper, series E agricultural economics - University of Illinois, Department of Agricultural Economics. Apr 1983. Apr 1983. (E-253). 26 p. Includes 5 references. (NAL Call No.: 916937(AGE)).

0099

Pesticide use and practices, 1982.
Duffy, M. Washington : The Department. Extract: Pesticide use varies considerably by crop, according to the Economic Research Service's 1982 Crop and Livestock Pesticide Usage Survey. Eleven percent of farmers who responded used professional scouting for pest problems, 59 percent self scouted their fields, and 12 percent were aware of beneficial insects and diseases. The extent of no- or reduced-till

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systems varied by crop. Almost 70 percent of the farmers with livestock used insecticides for livestock insect control. A majority of the respondents used common pesticide application safety equipment and 15 percent used specialized safety equipment. Agriculture information bulletin - U.S. Dept. of Agriculture. Dec 1983. Predominantly tables. Dec 1983. (462). 14 p. (NAL Call No.: 1 AG84AB).

0100

Production and economic returns of vegetable intercropping systems.

JOSHB. Brown, J.E. Splittstoesser, W.E.; Gerber, J.M. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. May 1985. v. 110 (3). p. 350-353. Includes 13 references. (NAL Call No.: DNAL 81 S012).

0101

Programmed interrelationships between soil loss and exports.

Short, C. Heady, E.O. Ames, Iowa : The Center. Extract: The purpose of this study is to study potential relationships between soil loss and export levels when different amounts of land can be transferred into the cropland base. The study is not an attempt to determine the extent to which soil erosion increased as agricultural production was intensified under growing exports and favorable prices after 1972. Instead it examines whether increased soil loss in different regions of the United States must increase at various future levels of exports. It is possible that under larger exports and higher commodity prices, it might be profitable for farmers to use sufficient conservation practices to hold soil erosion in check. That is, soil erosion may not be a required condition of higher export levels. The study, therefore, also studies the cropping or land use system, the conservation practices and tillage methods which might arise if various export levels were attained in the future. CARD report - Iowa State University, Center for Agricultural and Rural Development. Sept 1983. Sept 1983. (120). 97 p. Includes 23 references. (NAL Call No.: 281.9 I093).

0102

Returns to corn and soybean tillage practices.

Duffy, M. Hanthorn, M. Washington, D.C. : The Department. Extract: Average per-acre returns differ little for most U.S. corn and soybean farmers using various alternative tillage strategies, according to this analysis of 1980 farm-level production data. Midwest conventional-till soybean farmers, however, accrue a significantly higher average return than do Midwest no-till farmers. Most conservation-till soybean farmers in the three major producing regions incur significantly lower input costs than do conventional-till

soybean farmers, but also harvest lower yields except in the Southeast. Significant differences were found in the use of specific corn and soybean inputs among alternative tillage strategies. Agricultural economic report - United States Dept. of Agriculture. Jan 1984. Jan 1984. (508). 14 p. Includes 23 references. (NAL Call No.: A281.9 AG8A).

0103

Short- and long-term cost comparisons of conventional and conservation tillage systems in corn production.

JSWCA3. Mueller, D.H. Klemme, R.M.; Daniel, T.C. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Sept/Oct 1985. v. 40 (5). p. 466-470. Includes 29 references. (NAL Call No.: DNAL 56.8 J822).

0104

Soil erosion and conservation in Monroe County, Missouri: farmers' perceptions, attitudes, and performances.

Ervin, D.E. Alexander, C.T. Columbia, Missouri. The Department. Paper - University of Missouri-Columbia, Dept. of Agricultural Economics. Feb 10, 1981. Feb 10, 1981. (1981-10). 52 p. 6 ref. (NAL Call No.: 917437(AGE)).

0105

A stochastic dominance comparison of reduced tillage systems in corn and soybean production under risk.

Klemme, R.M. Ames, Iowa : American Agricultural Economics Association. Extract: Returns per acre of reduced tillage systems including conventional, chisel, till-plant, and no-till are examined under general assumptions concerning risk. These returns are calculated using corn and soybean experimental plot yields. Stochastic dominance rankings indicate an advantage (second degree) of conventional and chisel over no-till when soil loss costs are not assigned. Annual per acre soil loss costs of \$5-15 shift rankings towards the reduced tillage systems. A \$10 per acre cost results from corn yield losses of 0.06% per year (170 bushel per acre yield base) over fifty years with a 5% real discount rate. American journal of agricultural economics. Aug 1985. v. 67 (3). p. 550-562. Includes 14 references. (NAL Call No.: DNAL 280.8 J822).

0106

A total energy model for cotton production.

Sistler, F.E. Smith, P.A. Baton Rouge, The Station. Louisiana agriculture - Louisiana Agricultural Experiment Station. Summer 1981. v. 24 (4). p. 22-23. (NAL Call No.: 100 L939).

0107

**Waterfowl production on zero tillage farms
(Manitoba).**

Cowan, W.F.WLSBA. Bethesda : The Society.
Wildlife Society bulletin. Winter 1982. v. 10
(4). p. 305-308. 13 ref. (NAL Call No.:
SK357.A1W5).

0108

What is conservation tillage.

Mannering, J.V.JSWCA. Fenster, C.R. Ankeny, IA
: Soil Conservation Society of America.
Extract: Conservation tillage is "any (emphasis
added) tillage system that reduces loss of soil
or water relative to conventional tillage;
often a form of noninversion tillage that
retains protective amounts of residue mulch on
the surface." Conventional tillage, on the
other hand, is "the combined primary and
secondary tillage operations performed in
preparing a seedbed for a given crop grown in a
given geographical area. Journal of soil and
water conservation. May-June 1983. v. 38 (3).
p. 141-143. Includes 5 references. (NAL Call
No.: 56.8 J822).

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Conservation tillage: revolution or evolution?.
JSWCA3. Nowak, P.J. Korsching, P.F. Ankeny,
Iowa : Soil Conservation Society of America.
Journal of soil and water conservation. Mar/Apr
1985. v. 40 (2). p. 199-201. ill. Includes 17
references. (NAL Call No.: DNAL 56.8 J822).

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0110

Costs and returns of irrigated multiple-crop vegetable production in the Georgia Coastal Plains / by Bernard V. Tew ... (et al.).

Tew, Bernard V. (Athens) Division of Agricultural Economics, College of Agriculture, University of Georgia 1981. 136 leaves : map ; 29 cm. -. Bibliography: leaf 17. (NAL Call No.: HD1775.G4G42 no. 81-3).

0111

Crop chemical delivery systems for the '80s--and beyond.

AGENA. Lundeen, R.W. St. Joseph, Mich. : American Society of Agricultural Engineers. Agricultural engineering. Oct 1985. v. 66 (10). p. 13-15. (NAL Call No.: DNAL 58.8 AG83).

0112

Multiple crop supply and factor demand component of the world Grains, Oilseeds, and Livestock model.

Liu, K. Washington, D.C., The Service. Extract: This paper reviews the crop supply component of the world Grains, Oilseeds, and Livestock (GOL) model and attempts to develop an improved conceptual framework for specifying the multiple crop supply and input demand relationships in the GOL model. As a basis for examining and revising the crop supply component, the theoretical foundations for a multiple product production system and empirical studies related to agricultural commodity supply response were reviewed. The revised specification of the crop supply equations consists of a nonlinear equation system of area, yield and production. The major emphasis on the revision of the crop supply component is to ensure consistent acreage allocation among crop alternatives, to more realistically capture cross-price effects or substitution possibilities between alternative crops and to include policy variables to reflect the effects of government farm policies on crop supply response. ERS staff report - U.S. Dept. of Agriculture, Economic Research Service. Aug 1981. Available from NTIS. Aug 1981. (AGES810812). 49 p. 67 ref. (NAL Call No.: 916762(AGE)).

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0113

An analysis of the role of legumes in multiple cropping systems (for small farmers).

Gomez, A.A. Zandstra, H.G. Honolulu, The Service. Miscellaneous publication. Hawaii. University. Cooperative Extension Service. 1977. 1977. (145). p. 81-95. ill. 20 ref. (NAL Call No.: S544.3.H3H3).

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Annual progress report - 1980 : Shelby-Grundy Research Center, Beaconsfield, Iowa / Iowa State University of Science and Technology.

1981. This publication provides test information on grain sorghum, winter wheat, birdsfoot trefoil, and alfalfa management. Limestone rates and pasture interseeding systems are covered. Document available from: Iowa State Univ., Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011. 14 p. : ill. (NAL Call No.: Not available at NAL.). (NAL Call No.: ORC 80-02).

0115

C factors for no-till and conventional-till soybeans from plot data.

McGregor, K.C. St. Joseph, Mich. Transactions of the ASAE American Society of Agricultural Engineers. Nov/Dec 1978. v. 21 (6). p. 1119-1122. ill. 5 ref. (NAL Call No.: 290.9 AM32T).

0116

Cereal forages and multiple cropping for feed production on the Southern High Plains (Varieties, yields).

Fuehring, H.D. Las Cruces. Research report New Mexico. Agricultural Experiment Station. July 1978. July 1978. (376). 9 p. ill. 1 ref. (NAL Call No.: 100 N465R).

0117

A competitive ratio for quantifying competition between intercrops.

Willey, R.W. Rao, M.R. Cambridge, Cambridge University Press. Experimental agriculture. Apr 1980. v. 16 (2). p. 117-125. ill. 6 ref. (NAL Call No.: 10 EX72).

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Conventional and zero-till planted alfalfa with various pesticides.

Faix, J.J. Graffis, D.W. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC. Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 117-123. ill. 8 ref. (NAL Call No.: S1.D5).

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Double-cropping and interplanting, June 1982-December 1983.

MacLean, J.T. Beltsville, Md. : The Library. Quick bibliography series - National Agricultural Library. Mar 1984. Updates 82-29 ~Bibliography. Mar 1984. (84-18). 19 p. (NAL Call No.: aZ5071.N3).

0120

Effects of small grain (wheat and barley) stubble height and mulch on no-tillage soybean production (Double crop).

Hovermale, C.H. Camper, H.M. Madison. Agronomy journal American Society of Agronomy. July/Aug 1979. v. 71 (4). p. 644-647. ill. 16 ref. (NAL Call No.: 4 AM34P).

0121

An eleven-year comparison of 0 (zero)-till, conventional and plow-plant corn culture.

McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC. Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 31-33. ill. 1 ref. (NAL Call No.: S1.D5).

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Evaluation of legume intercropping in conservation of fertilizer nitrogen in maize culture.

Nair, K.P.P. Patel, U.K. Cambridge, Cambridge University Press. Journal of agricultural science. Aug 1979. v. 93 (pt.1). p. 189-194. ill. 9 ref. (NAL Call No.: 10 J822).

0123

Forage (Festuca arundinacea) establishment in soybean residue (Minimum tillage).

Jones, J.H. Olsen, F.J. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC. Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 138-142. ill. 2 ref. (NAL Call No.: S1.D5).

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Fundamentals of no-till farming / (Robert W. Rice, author-editor).

Rice, Robert W. Athens, Ga. American Association for Vocational Instructional Materials 1983. Includes index ~"AGDEX 519.". 148 p. : col. ill., map ; 28 cm. Bibliography: p. 143-144. (NAL Call No.: S604.R5 1983).

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Grain sorghum production: with reduced tillage, after wheat, in central Kansas (Cropping).
 Nilson, E.B. Phillips, W.M. Manhattan, Kan., The Service. C.Kansas State University. Cooperative Extension Service. Sept 1978. Sept 1978. (477). 12 p. ill., map. (NAL Call No.: 275.29 K13EX).

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Grain yields and land equivalent ratios from intercropping corn and soybeans in Minnesota.
 Crookston, R.K. Hill, D.S. Madison. Agronomy journal American Society of Agronomy. Jan/Feb 1979. v. 71 (1). p. 41-44. ill. 17 ref. (NAL Call No.: 4 AM34P).

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Graphical assessment of intercropping methods (Maize and cassava as an example).
 Pearce, S.C. Gilliver, B. Cambridge, Cambridge University Press. Journal of agricultural science. Aug 1979. v. 93 (pt.1). p. 51-58. ill. 7 ref. (NAL Call No.: 10 J822).

0128

A guide to no-till sod planting in Indiana.
 Griffith, D. R. Williams, J. L.; Doster, D. H.; Mengel, D. B.; Scott, D. H.; Parsons, S. D.; Turpin, F. T. 1980. The purpose of this publication is to show the benefits of no-till sod plantings, where no-till sod planting is adapted, the equipment needed, 'sod kill' techniques and weed control for no-till sod planting, fertilizing no-till sod planted crops, insect control, rodent control, disease control of no-till sod planted crops. Document available from: Mailing Room, Ag. Administration Bldg., Purdue University, West Lafayette, IN 47907. 7 p. : ill. (NAL Call No.: ID-133).

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How California cotton producers are beating the cost-price squeeze (Narrow-row cotton, minimum tillage, once-over harvest machines, movable module builders).
 Drum, D. Apr 1979. v. 94 (4). Progressive farmer for the West. Apr 1979. v. 94 (4). p. 47N-48N. ill. (NAL Call No.: 6 T311).

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The interference production principle: an ecological theory for agriculture (Intercropping).
 Vandermeer, J. Stony Brook, N.Y., Stony Brook Foundation. The Quarterly review of biology. Mar 1981. v. 56 (1). p. 361-364. 18 ref. (NAL

Call No.: 442.8 Q2).

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Interseeding alfalfa for grassland improvement in the Northern Great Plains.
 Krueger, C.R. Vigil, F.R. St. Paul, Minn., The Region. Agricultural reviews and manuals. ARM-NC. United States. Dept. of Agriculture. Science and Education Administration. Agricultural Research. North Central Region. July 1979. July 1979. (7). p. 19. (NAL Call No.: a521.A75U69).

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Interseeding legumes into grass sod (Varieties, yields).
 Graffis, D.W. Madison, Wis., The Department. Progress report, clovers and special purpose legumes research. Wisconsin. University. Dept. of Agronomy. 1978. v. 11. p. 21-26. ill. (NAL Call No.: SB193.P72).

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 Jeffers, D.L. Triplett, G.B. Jr. Wooster, The Center. Ohio report on research and development in agriculture, home economics, and natural resources. Ohio. Agricultural Research and Development Center. Sept/Oct 1979. v. 64 (5). p. 67-70. ill. (NAL Call No.: 100 OH35 (3)).

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No till crop production basics.
 Gregoire, Terry. VanderVorst, Blake.; Sobolik, Frank. & Plant science section. Document available from: North Dakota State University, Dept. of Agricultural Communications, Fargo, North Dakota 58105 1983. Discusses the system eliminating primary tillage operations and emphasizing minimum disturbance of the soil surface during seeding and other crop production operations. 5 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: A-797).

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No-till drills for recropping.
 Krall, J. Dubbs, A. Bozeman, Mont., The Station. Bulletin. Montana. Agricultural Experiment Station. July 1979. July 1979. (716). 21 p. ill. (NAL Call No.: 100 M76 (1)).

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No-tillage maize production in chemically suppressed grass sod (*Festuca arundinacea*, *Poa pratensis*, herbicides, erosion control). Elkins, D.M. Vandeventer, J.W. Madison. Agronomy journal American Society of Agronomy. Jan/Feb 1979. v. 71 (1). p. 101-105. ill. 9 ref. (NAL Call No.: 4 AM34P).

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The pro's and con's of minimum tillage in corn. Triplett, G.B. Jr. Washington, D.C., American Seed Trade Association. Proceedings of the ... annual corn and sorghum research conference. American Seed Trade Association. Corn and Sorghum Division. Corn and Sorghum Research Conference. 1976. 1976. (31st). p. 144-158. ill. 16 ref. (NAL Call No.: 59.9 AM32).

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Statistical designs and response models for mixtures of cultivars (Legumes, grass, weeds, dry beans, multiple cropping). Federer, W.T. Madison, The Society. Agronomy journal American Society of Agronomy. Sept/Oct 1979. v. 71 (5). p. 701-706. ill. 20 ref. (NAL Call No.: 4 AM34P).

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Systems for interseeding and double cropping soybeans (Includes equipment). Wendte, K.W. Nave, W.R. St. Joseph, Mich., The Society. Transactions of the ASAE American Society of Agricultural Engineers. July/Aug 1979. v. 22 (4). p. 719-723. ill. 7 ref. (NAL Call No.: 290.9 AM32T).

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Utilization of minimum tillage machinery--fifteen rows at a time (Cotton production). Starrh, F.L. Memphis, National Cotton Council of America. Proceedings. Beltwide Cotton Production-Mechanization Research Conference. 1979. 1979. p. 57. (NAL Call No.: SB249.N6).

0142

Vegetables suitable for association with subsistence maize and beans in the highlands of Guatemala (Crop yields, intercropping). Kass, D.C.L. (v.p.) : The Society. Proceedings of the Tropical Region, American Society for Horticultural Science : annual meeting. 1982. v. 25. p. 219-228. Includes references. (NAL Call No.: 81 AM325).

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Yield potential of interplanted annual food crops in southeastern U. S. (Maize, soybeans, kidney beans, sweetpotatoes). Cordero, A. McCollum, R.E. Madison, The Society. Agronomy journal American Society of Agronomy. Sept/Oct 1979. v. 71 (5). p. 834-842. ill. 11 ref. (NAL Call No.: 4 AM34P).

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Zero-till corn in bermudagrass (*Cynodon dactylon*) sod for silage. Faix, J.J. Kaiser, C.J. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC. Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 93-95. ill. 9 ref. (NAL Call No.: S1.D5).

0145

0 (zero)-till soybean culture (in cornstalks and in wheat stubble, varieties, herbicides). McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC. Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 61-70. ill. 1 ref. (NAL Call No.: S1.D5).

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Alternatives in orchard ground cover management (in herbicide use, tillage methods and non-tillage methods).

Stiles, W.C. North Amherst, Mass. : The Association. New England fruit meetings ... Proceedings of the ... annual meeting - Massachusetts Fruit Growers' Association. 1984. 1984. (90th). p. 62-69. Includes references. (NAL Call No.: 81 M384).

0148

Armyworms as a pest of no-till corn.

Roberts, J. E. Blacksburg Extension Division, Cooperative Extension, Virginia Polytechnic Institute and State University 1975. 3 p. -. (NAL Call No.: SB612.V8V8 no.151 1975).

0149

Avocados planted among citrus may help ensure the future.

Borst, G. Vista, Calif. : Rancher Pub. Avocado grower. Apr 1984. v. 8 (4). p. 19-20. ill. Includes 5 references. (NAL Call No.: DNAL SB379.A9A9).

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Budgetary analysis of returns from irrigated vegetable production in Georgia (Multiple crop farming, yields, economic outlook).

Alexander, V.J. Tew, B.V.; Smittle, D.A.; Musser, W.N.; Epperson, J.E.; Mizelle, W.O. Jr. Athens, Ga. : The Stations. Research report - University of Georgia, College of Agriculture, Experiment Stations. Aug 1984. Aug 1984. (454). 63 p. ill. Includes 11 references. (NAL Call No.: S51.E22).

0151

Comparison of no-till and conventional cabbage production.

Bellinder, R.R. Hines, T.E.; Wilson, H.P. Virginia Beach, Va. : Virginia Polytechnic Inst. and State University Cooperative Ext. Service. The Vegetable growers news. May/June 1984. v. 38 (6). p. 4. (NAL Call No.: 275.28 V52).

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Costs and returns of irrigated multiple-crop production in the Georgia coastal plain /by Bernard V. Tew... et al. . -.

Tew, Bernard V. Athens, Ga. : Division of Agricultural Economics, College of Agriculture, University of Georgia, 1982. Chiefly tabular data. 211 leaves : map ; 29 cm. -. Bibliography: leaf 13. (NAL Call No.: DNAL HD1775.G4G42 no.82-3).

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Costs and returns of irrigated multiple-crop production in the Georgia Coastal Plains, 1980- / by Bernard V. Tew ... (et al.).

Tew, Bernard V. (Athens, Ga.) Division of Agricultural Economics, College of Agriculture, University of Georgia 1983. v. : map ; 29 cm. -. Includes bibliographies. (NAL Call No.: HD1775.G4G42 no.83-2 etc.).

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Tew, Bernard V. (Athens, Ga.) Division of Agricultural Economics, College of Agriculture, University of Georgia (1980?). "April, 1980". 89 leaves ; 28 cm. -. Includes bibliographical references. (NAL Call No.: HD1775.G4G42 no.80-1).

0157

Cover crops for no-tillage production of cabbage and broccoli.

Morse, R. Seward, D. Virginia Beach, Va. : Virginia Polytechnic Inst. and State University Cooperative Ext. Service. The Vegetable growers news. Nov/Dec 1984. v. 39 (3). p. 1, 4. (NAL Call No.: DNAL-275.28 V52).

0158

Cover vegetation in filberts and Christmas trees (No-till methods, Oregon).

Lagerstedt, H. Corvallis, Or. : International Plant Protection Center, Oregon State University, 1982. Crop production using cover crops and sods as living mulches : workshop

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proceedings / edited by J.C. Miller and S.M. Bell. p. 56-66. (NAL Call No.: S661.5.C7).

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Effect of growth habit of beans of tolerance to competition from maize when intercropped (Genotype X cropping system interaction, harvest index, Colombia).

Davis, J.H.C. Beuningen, L. van; Ortiz, M.V.; Pino, C. Madison, Wis. : Crop Science Society of America. Crop science. July/Aug 1984. v. 24 (4). p. 751-755. ill. Includes references. (NAL Call No.: 64.8 C883).

0160

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Effect of traditional insect-repellent plants on insect numbers in a mixed planting system. Matthews, D.L. Michalak, P.S.; MacRae, R.J. New York : Praeger, 1983. Environmentally sound agriculture : selected papers, 4th conference, International Federation of Organic Agriculture Movements, Cambridge, Mass., August 18-20, 1982 / edited by William Lockeretz. p. 117-127. Includes references. (NAL Call No.: DNAL S604.5.E58).

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Effect on tanager yields of artificial shade levels and of intercropping with plantains (Tropical root crop, Puerto Rico).

Rodriguez-Garcia, J. Abruna, F.; Diaz, N. Rio Piedras, The Station. The Journal of agriculture of the University of Puerto Rico - Puerto Rico, Agricultural Experiment Station. Oct 1981. v. 65 (4). p. 326-330. 6 ref. (NAL Call No.: 8 P832J).

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Effects of conservation tillage practices on crop yields in the Lake Erie Basin / by Donald J. Eckert.

Eckert, Donald J. Buffalo Lake Erie Wastewater Management Study, U.S. Army Corps of Engineers, Buffalo District Springfield, Va. available from NTIS 1981. "December 1981.". v. 23 leaves ; 28 cm. Bibliography: leaves 22-23. (NAL Call No.: S602.87.E3).

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Effects of management practices on nematode and fungus populations and cucumber yield (Multiple cropping).

Johnson, A.W. Sumner, D.R. Ames, Iowa Society of Nematologists. Journal of nematology. Jan 1979. v. 11 (1). p. 84-93. ill. 16 ref. (NAL Call No.: QL391.N4J62).

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Effects of no-tillage and herbicides on carrot and onion seed production.

Campbell, W.F. Anderson, J.L. Alexandria, Va., American Society for Horticultural Science. HortScience. Oct 1980. v. 15 (5). p. 662-664. ill. 6 ref. (NAL Call No.: SB1.H6).

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Effects of no tillage and various tillage methods on yields of maize, field beans and pepper grown on a mollisol in southern Puerto Rico.

JAUPA. Lugo-Mercado, H.M. Badillo-Feliciano, J.; Ortiz-Alvarado, F.H. Mayaguez : University of Puerto Rico, Agricultural Experiment Station. The Journal of agriculture of the University of Puerto Rico. Oct 1984. v. 68 (4). p. 349-354. Includes 15 references. (NAL Call No.: DNAL 8 P832J).

0167

Growing peachespruning, renewal of tops, thinning, interplanted crops, and special practices /by H.P. Gould. -.

Gould, H. P. Washington, D.C. : U.S. Dept. of Agriculture, 1915. 23 p. : ill. -. Includes bibliographical references. (NAL Call No.: DNAL Fiche S-70 no.632).

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Guava: companion crop for avocados.

Sweet, C. Vista, Calif., Rancher Publications. Avocado grower. May 1979. v. 3 (5). p. 48-49, 57. (NAL Call No.: SB379.A9A9).

0169

Heritabilities of grain yield of common bean in sole crop and in intercrop with maize (Harvest index).

Zimmermann, M.J.O. Rosielle, A.A.; Waines, J.G. Madison, Wis. : Crop Science Society of America. Crop science. July/Aug 1984. v. 24 (4). p. 641-644. Includes references. (NAL Call No.: 64.8 C883).

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Inflation feeds intercropping--and some consequences (Almond tree cultivation, management).
Sacramento, California Almond Growers Exchange. Almond facts. May/June 1981. v. 46 (3). p. 17, 19-21. ill. (NAL Call No.: 280.28 AL62).

0171

Intercropping research yields needed information (Tomato, beans, computer modeling, Michigan).
East Lansing, The Station. Michigan science in action - Michigan, Agricultural Experiment Station. 1981. 1981. (45). p. 18-19. ill. (NAL Call No.: S1.M5).

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Interplanting: is it worth the headaches? (Citrus and avocados, Phytophthora cinnamomi, cultural control).
Vista, Calif., Rancher Publications. Avocado grower. Nov 1980. v. 4 (11). p. 26-27. ill. (NAL Call No.: SB379.A9A9).

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No-till fall vegetable experiments.
Tessore, C. Chappell, W.E.; Morse, R.D.; O'Dell, C.R. Norfolk, Va., The Service. The Vegetable growers news - Virginia Polytechnic Institute and State University, Cooperative Extension Service. Jan 1981. v. 35 (2). p. 2-3. (NAL Call No.: 275.28 V52).

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No-till peaches get head start.
AGREA. Black, A. Washington, D.C. : The Administration. Agricultural research - U.S. Department of Agriculture, Agricultural Research Service. May 1985. v. 33 (5). p. 14. (NAL Call No.: DNAL 1.98 AG84).

0175

No-till snap bean trials (Phaseolus vulgaris).
Mullins, C.A. Geneva, N.Y. : Bean Improvement Cooperative. Annual report of the Bean Improvement Cooperative. 1984. v. 27. p. 149-151. (NAL Call No.: SB327.A1B5).

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No-till vegetables: is the time now ripe.
Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. July 1984. v. 13 (7). p. 5. (NAL Call No.: S604.N6).

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No-tillage home gardening saves time, labor, and cost.
Maxwell, K.R. University Park, Pa., The Station. Science in agriculture - Pennsylvania Agricultural Experiment Station. Summer 1982. v. 29 (4). p. 2. (NAL Call No.: 100 P381S).

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No-tillage production of snap beans.
Wilson, H.P. Norfolk, Va., The Service. The Vegetable growers news - Virginia Polytechnic Institute and State University, Cooperative Extension Service. Jan 1981. v. 35 (2). p. 3. (NAL Call No.: 275.28 V52).

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Orchard floor management for young pecan trees in the El Paso Valley (Intercropping, mowing clean cultivation).
Kilby, M.W. Atlanta, Ga., Publications South. Pecan South. Jan 1979. v. 6 (1). p. 26-27, 29. (NAL Call No.: SB401.P4P4).

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Peas in clover (Interplanting).
Cox, J. Emmaus, Pa., Rodale Press. Organic gardening. Sept 1979. v. 26 (9). p. 38-39, 42, 44, 46-47. ill. (NAL Call No.: 57.8 OR32).

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Subsurface trickle irrigation management with multiple cropping (Cantaloupe, onions, carrots).
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Experiment Station. Winter 1980/1981. v. 24
(2). p. 18-19, 21. (NAL Call No.: 100 L939).

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Update on minimum till (Vegetable cultivation).

Willoughby, Ohio, Meister. American vegetable
grower and greenhouse grower. Sept 1980. v. 28
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Use of no tillage for summer vegetable production (Squash, cucumber, cabbage, tomato, Virginia).

Morse, R.D. Tessore, C.M.; Chappell, W.E.;
O'Dell, C.R. Virginia Beach, Va., Virginia
Polytechnic Inst. and State University
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Horticultural Science : annual meeting. 1982.
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Thome, H. East Lansing, Mich., International
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1981. This publication provides test information on grain sorghum, winter wheat, birdsfoot trefoil, and alfalfa management. Limestone rates and pasture interseeding systems are covered. Document available from: Iowa State Univ., Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011. 14 p. : ill. (NAL Call No.: Not available at NAL.). (NAL Call No.: ORC 80-02).

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Palada, M.C. Ganser, S.; Hofstetter, R.; Volak, B.; Culik, M. New York : Praeger, 1983. Environmentally sound agriculture : selected papers, 4th conference, International Federation of Organic Agriculture Movements, Cambridge, Mass., August 18-20, 1982 / edited by William Lockeretz. p. 193-213. Includes 17 references. (NAL Call No.: DNAL S604.5.E58).

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Smika, D.E. Sharman, E.D. Fort Collins, Colo., The Station. Technical bulletin - Colorado State University Experiment Station. May 1982. May 1982. (144). 4 p. ill. (NAL Call No.: 100 C71S (3)).

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Conventional and no-till establishment of ladino clover as influenced by time of seeding and insect and grass suppression. AGU0AT. Rogers, D.D. Chamblee, D.S.; Mueller, J.P.; Campbell, W.V. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1985. v. 77 (4). p. 531-538. Includes 15 references. (NAL Call No.: DNAL 4 AM34P).

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Corn: no-till corn production. Baskin, C.C. McKie, J.W. Sr. Starkville, Miss., The Service. Information sheet - Mississippi State University, Cooperative Extension Service. Mar 1981. Mar 1981. (1163). 2 p. (NAL Call No.: S544.3.M7M5).

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Cochran, V. Pullman, Wash., The Service. EM - Washington State University, Cooperative Extension Service. May 1980. May 1980. (4576). 1 p. (NAL Call No.: 275.29 W27MI).

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0214

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Swearingin, Marvin L. Bauman, Thomas T.; Robbins, Paul R.; Edwards, Richard.; Doster, D. Howard.; Parsons, Samuel D. 1979. This publication extensively covers double cropping winter wheat and soybeans in Indiana. The contents of the article covers an overview of double cropping in Indiana. Management suggestions for no-till double cropping, profit potential of double cropping wheat and soybean, weed control in double cropping, insect control, along with harvesting and drying high moisture wheat. Document available from: Mailing Room, Ag. Administration Bldg., Purdue University, West Lafayette, IN 47907. 22 p. : ill. (NAL Call No.: ID-96).

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Powell, G.M. Manhattan : The Service. L - Cooperative Extension Service, Kansas State University. June 1982. June 1982. (634). 8 p. ill. (NAL Call No.: 275.29 K13LE).

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Economics of winter cover crops as a source of nitrogen for no-till corn.

JSWCA3. Frye, W.W. Smith, W.G.; Williams, R.J. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Mar/Apr 1985. v. 40 (2). p. 246-249. Includes 11 references. (NAL Call No.: DNAL 56.8 J822).

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Effect of applied and residual P (phosphorus) on double-cropped wheat and soybean under conservation tillage management (Triticum aestivum, Glycine max).

Sharpe, R.R. AGJ0AT. Touchton, J.T.; Boswell, F.C.; Hargrove, W.L. Madison : American Society of Agronomy. Agronomy journal. Jan/Feb 1984. v. 76 (1). p. 31-35. ill. Includes references. (NAL Call No.: 4 AM34P).

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Effect of growth habit of beans of tolerance to competition from maize when intercropped (Genotype X cropping system interaction, harvest index, Colombia).

Davis, J.H.C. Beuningen, L. van; Ortiz, M.V.; Pino, C. Madison, Wis. : Crop Science Society of America. Crop science. July/Aug 1984. v. 24 (4). p. 751-755. ill. Includes references. (NAL Call No.: 64.8 C883).

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Effect of intercropping on growth and yield components of redgram (Pigeon peas).

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Fox, R.H. Hoffman, L.D. Madison, Wis., American Society of Agronomy. Agronomy journal. 1981. v. 73 (5). p. 891-895. 12 ref. (NAL Call No.: 4 AM34P).

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Effect of spray/planting intervals and various grass sods on no-till establishment of alfalfa.

AGJ0AT. Eltun, R. Wakefield, R.C.; Sullivan, W.M. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1985. v. 77 (1). p. 5-8. Includes 17 references. (NAL Call

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Effect of time of ridging soybeans on soybean production in a ridge-plant system.
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Effect of timing and herbicides on the no-tillage establishment of red clover, alfalfa, and birdsfoot trefoil.
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Order Dept., 2950 Niles Road, St. Joseph,
Michigan 49085. Telephone the Order Dept. at
(616) 429-0300 for information and prices.
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0228

Effects of no-tillage and ploughing on roots of maize and leguminous crops.
Maurya, P.R. Lal, R. Cambridge, Cambridge
University Press. Experimental agriculture. Apr
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0229

Effects of no tillage and various tillage methods on yields of maize, field beans and pepper grown on a mollisol in southern Puerto Rico.
JAUPA. Lugo-Mercado, H.M. Badillo-Feliciano,
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12 ref. (NAL Call No.: 100 N27 (3)).

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Gazziero, D.L.P. Mesquita, C.M.; Roessing, A.C.
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Equipment wheel spacing availability and adaptations for ridge-planted corn and soybeans.
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Establishment of alfalfa by conventional and minimum-tillage seeding techniques in a quackgrass (*Agropyron repens*)-dominant sward.
Mueller-Warrant, G.W. Koch, D.W. Madison, Wis., American Society of Agronomy. Agronomy journal. Nov/Dec 1980. v. 72 (6). p. 884-889. ill. 9 ref. (NAL Call No.: 4 AM34P).

0234

Evaluation of genotype X cropping system interaction of pigeonpeas grown as a sole crop and in association with sorghum.
Knauft, D.A. Beninati, N.F. S.1. : The Society. Proceedings - Soil and Crop Science Society of Florida. 1984. v. 43. p. 89-92. Includes 9 references. (NAL Call No.: DNAL 56.9 S032).

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Evaluation of nitrification inhibitors for no-till corn.
Huber, D.M. SOSCA. Warren, H.L.; Nelson, D.W.; Tsai, C.Y.; Ross, M.A.; Mengel, D. Baltimore : Williams & Wilkins. Soil science. Dec 1982. v. 134 (6). p. 388-394. 15 ref. (NAL Call No.: 56.8 S03).

0236

The evaluation of warm season perennial grasses with and without interplanted annual grass and legume crops (Forage yields, digestibility, Louisiana).
Montgomery, C.R. Nelson, B.D.; Mason, L.F. Madison : The Department. Progress report, clovers and special purpose legumes research - Univ. of Wisconsin, Dept. of Agronomy. 1982. v. 15. p. 24-25. (NAL Call No.: SB193.P72).

0237

Evaluation of yield stability in intercropping: studies on sorghum/pigeonpea.
Rao, M.R. Willey, R.W. Cambridge, Cambridge University Press. Experimental agriculture. Apr 1980. v. 16 (2). p. 105-116. ill. Bibliography p. 115-116. (NAL Call No.: 10 EX72).

0238

Fall no-till seeding of alfalfa into tall fescue as influenced by time of seeding and grass and insect suppression.
AGJOAT. Rogers, D.D. Chamblee, D.S.; Mueller, J.P.; Campbell, W.V. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1985. v. 77 (1). p. 150-157. Includes 15 references. (NAL Call No.: DNAL 4 AM34P).

0239

Fallow tillage influence on spring populations of soil nitrifiers, Denitrifiers, and available nitrogen (Conservation tillage, winter wheat, Nebraska).
Broder, M.W. Doran, J.W.; Peterson, G.A.; Fenster, C.R. Madison, Wis. : The Society. Journal - Soil Science Society of America. Sept/Oct 1984. v. 48 (5). p. 1060-1067. ill. Includes 29 references. (NAL Call No.: 56.9 S03).

0240

Fighting soil erosion (No-till plantings, field crops, Tennessee).
Mays, G.C. Washington, D.C. : The Administration. Extension review - United States Department of Agriculture, Science and Education Administration. Fall 1983. v. 54 (4). p. 38-39. ill. (NAL Call No.: 1 EX892EX).

0241

Forage mixtures for Indiana soils.
Rhykerd, L. Charles. 19--?. This publication deals with Indiana's soil types and forage mixtures that grow well on these particular soil regions. Soil drainage, seeding mixtures, seeding rates are specific variables looked at. Mixtures are given that best suit hog production and horse pastures. Tables are included. Document available from: Mailing Room Ag. Administration Bldg., Purdue Univ., West Lafayette, IN. 47907. (NAL Call No.: AY-182).

0242

Forage yield of intercropped corn and soybean in various planting patterns (Includes protein content, Massachusetts).
Herbert, S.J. Putnam, D.H.; Poos-Floyd, M.I.; Vargas, A.; Creighton, J.F. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1984. v. 76 (4). p. 507-510. ill. Includes references. (NAL Call No.: 4 AM34P).

0243

Full-season no-till beans will work (Soybeans, Ohio, Illinois).
Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. May 1984. v. 12 (5). p. 9. ill. (NAL Call No.: S604.N6).

0244

Grain sorghum response to tillage method used during fallow and to limited irrigation.
AGJOAT. Baumhardt, R.L. Zartman, R.E.; Unger, P.W. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1985. v. 77 (4). p. 643-646. Includes references. (NAL

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0245

A growth retardant improves performance of soybeans relay intercropped with winter wheat (Yields).

Jeffers, D.L. Madison, Wis. : Crop Science Society of America. Crop science. July/Aug 1984. v. 24 (4). p. 695-698. Includes references. (NAL Call No.: 64.8 C883).

0246

Guidelines.

Nelson, L. V. Robertson, L. S.; Erdmann, M. H.; Guisenberry, D.; White, R. G. & No till corn: 1. Document available from: Michigan State University, Bulletin Office, P.O. Box 231, East Lansing, Michigan 48824 1976. This publication discusses guidelines for no till corn including soil adaptation, equipment requirements, and control of weeds. 4 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: Extension Bulletin E-904).

0247

Guidelines for reduced tillage soybeans.

Jordan, C.W. MS. Starkville, Miss., The Service. Information sheet - Mississippi State University, Cooperative Extension Service. June 1980. June 1980. (1129). 2 p. (NAL Call No.: S544.3.M7M5).

0248

Herbicide incorporation and reduced tillage (Maize).

San Francisco, California Farmer Publishing Co. Agrichemical age. Apr 1981. v. 25 (4). p. 26-27. ill. (NAL Call No.: 381 AG85).

0249

Herbicides for 0-till corn in sod, 1979 (No-tillage, Illinois).

McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan 1980. (8). p. 49-52. Includes 1 ref. (NAL Call No.: S1.D5).

0250

Herbicides for 0-till corn in soybean stubble, 1979 (No-tillage systems, Illinois).

McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan 1980. (8). p. 57-60. Includes 1 ref. (NAL Call No.: S1.D5).

0251

How to establish alfalfa by no-till (Experiments in Virginia).

Bryant, H.T. BCPFA. Atlanta : Potash & Phosphate Institute. Better crops with plant food. Summer 1983. v. 67. p. 24-25. (NAL Call No.: 6 B46).

0252

Identification and evaluation of soil chemical and physical properties limiting root development in Louisiana soils (Soybeans, wheat, minimum tillage, yields).

Dabney, S.M. Baton Rouge : The Department. Report of projects - Louisiana Agricultural Experiment Station, Department of Agronomy. 1982. 1982. p. 290-299. ill. (NAL Call No.: 100 L936).

0253

Influence of conservation tillage systems on corn and soybean yields (Maize).

Thurlow, D.L. Edwards, J.H.; Eason, J.T. Auburn, Ala. : The Station. Highlights of agricultural research - Alabama, Agricultural Experiment Station. Summer 1984. v. 31 (2). p. 5. ill. (NAL Call No.: 100 AL1H).

0254

Influence of weed control programs in intensive cropping systems.

WEESA6. Glaze, N.C. Dowler, C.C.; Johnson, A.W.; Sumner, D.R. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1984. v. 32 (6). p. 762-767. Includes 10 references. (NAL Call No.: DNAL 79.8 W41).

0255

Insect populations in cotton produced under conservation tillage (Peridroma saucia, Lygus lineolaris, Heliothis spp., Gossypium hirsutum, Trifolium incarnatum, cutworms, tarnished plant bugs, bollworms, budworms, crimson clover).

Gaylor, M.J. Fleischer, S.J.; Muehleisen, D.P.; Edelson, J.V. Ankeny, IA : Soil Conservation Society of America. Journal of soil and water conservation. Jan/Feb 1984. v. 39 (1). p. 61-64. Includes references. (NAL Call No.: 56.8 J822).

0256

Interaction between maize and cowpea at various frequencies (Intercropping).

Remison, S.U. Cambridge, Cambridge University Press. The Journal of agricultural science. June 1980. v. 94 (3). p. 617-621. ill. 26 ref. (NAL Call No.: 10 J822).

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Schwieh, J.D. Willis, W.O.; Grable, A.R.
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Kass, D.C.L. (v.p.) : The Society. Proceedings of the Tropical Region, American Society for Horticultural Science : annual meeting. 1982. v. 25. p. 219-228. Includes references. (NAL Call No.: 81 AM325).

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Weed control in a winter wheat-corn-ecofarming rotation (Reduced tillage, row spacing, seeding rates, Triticum aestivum, Zea mays, Nebraska). Vander Vost, P.B.AGUOA. Wicks, Gg.A.; Burnside, D.C. Madison : American Society of Agronomy. Agronomy journal. May/June 1983. v. 75 (3). p. 507-511. ill. Includes references. (NAL Call No.: 4 AM34P).

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Allen, J.R.AGUOA. Obura, R.K. Madison : American Society of Agronomy. Agronomy journal. Nov/Dec 1983. v. 75 (6). p. 1005-1009. ill. Includes references. (NAL Call No.: 4 AM34P).

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 John Deere Powr-till and Melroe 701
 minimum-till drills were used. Preliminary cost
 determinations indicated the drill, tractor,
 and labor costs were lowest for the Melroe
 drill. This is primarily due to its lower
 energy requirement. Optimum seedling counts
 were observed when glyphosate was applied two
 weeks prior to the interseeding of a mountain
 meadow. A four week interval was optimum when
 legumes were seeded into a pasture. The highest
 initial tall fescue seedling counts with the
 Melroe drill were obtained when planted before
 green-up of the established sod. Tall fescue
 seedling counts with the John Deere drill were
 the highest with a broadcast application of
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Document available from: Ohio State University, Extension Publication Office, 2120 Fyffe Road, Columbus, Ohio 43210 1983. Presents a valuable reference on information on Ohio's climate, soils, soil conservation, fertilizer and lime use, tillage seed selection and quality, crop variety selection, crop production practices, weed control and herbicides, and many other topics. 99 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: Bulletin 472).

PLANT PHYSIOLOGY AND BIOCHEMISTRY

0419

Douglas-fir stem growth per unit of leaf area increased by interplanted Sitka alder and red alder (*Pseudotsuga menziesii*, *Alnus sinuata*, *Alnus rubra*, ratio of leaf area to sapwood area, photosynthesis, British Columbian forests).

Binkley, D. Washington : Society of American Foresters. Forest science. Mar 1984. v. 30 (1). p. 259-263. ill. Includes references. (NAL Call No.: 99.8 F7632).

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0421

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Ozkan, Muammer, 1932. 1971. Thesis (Ph.D.)--Montana State University, 1971. Photocopy. Ann Arbor, Mich. : University Microfilms, 1972. xi, 76 leaves ; 21 cm. Bibliography: leaves (73)-76. (NAL Call No.: DISS 71-28,866).

0422

Exudation of glyphosate from wheat (*Triticum aestivum*) plants and its effects on interplanted corn (*Zea mays*) and soybeans (*Glycine max*) (Growth regulator, herbicide uptake, no-tillage).

Rodrigues, J.J.V. Worsham, A.D.; Corbin, F.T. Champaign, Ill., Weed Science Society of America. Weed science. May 1982. v. 30 (3). p. 316-320. Includes 22 ref. (NAL Call No.: 79.8 W41).

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AGUOAT. Karlen, D.L. Sojka, R.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1985. v. 77 (4). p. 561-567. Includes 14 references. (NAL Call No.: DNAL 4 AM34P).

0424

Inhibition of pitted morning glory (*Ipomaea lacunosa* L.) and certain other weed species by phytotoxic components of wheat (*Triticum aestivum* L.) straw (in no-till cropping systems).

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0427

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Wilhelm, W.W. Mielke, L.N.; Fenster, C.R. Madison, Wis., American Society of Agronomy. Agronomy journal. Jan/Feb 1982. v. 74 (1). p. 85-88. Includes 13 ref. (NAL Call No.: 4 AM34P).

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Spaeth, S.C. Randall, H.C.; Sinclair, T.R.; Vendeland, J.S. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1984. v. 76 (3). p. 482-486. ill. Includes references. (NAL Call No.: 4 AM34P).

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Griffin, J.L. Taylor, R.W.; Habetz, R.U.
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Epperson, J.E. Dowler, C.C.; Chalfant, R.B.; Johnson, A.W.; Glaze, N.C.; Sumner, D.R. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1982. v. 107 (4). p. 624-627. 19 ref. (NAL Call No.: 81 S012).

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PESTS OF PLANTS – GENERAL AND MISC.

0433

Evaluation of pesticides for improving alfalfa establishment in conventional and no-till sod planting (Damage of pillbugs and slugs).

Faix, J.U. IL. Kaiser, C.U.; Graffis, D.W.
Urbana-Champaign, Ill., Illinois Agricultural
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Agricultural Center. Jan 1980. Jan 1980. (8).
p. 104-109. 2 ref. (NAL Call No.: S1.D5).

0434

Invertebrate organisms associated with alfalfa seedling loss in complete-tillage and no-tillage plantings (Slugs, Agriolimax reticulatus, Nemobius spp. crickets).

Grant, J.F. JEENA. Yeargan, K.V.; Pass, B.C.;
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Hammond, R.B. EVETB. Jeffers, D.L. College Park : Entomological Society of America. Environmental entomology. Oct 1983. v. 12 (5). p. 1487-1489. Includes references. (NAL Call No.: QL461.E532).

0436

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JEENAI. Capinera, J.L. Weissling, T.J.; Schweizer, E.E. College Park, Md. : Entomological Society of America. Journal of economic entomology. Apr 1985. v. 78 (2). p. 354-357. ill. Includes references. (NAL Call No.: DNAL 421 J822).

0437

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JEENAI. Byers, R.A. Bierlein, D.L. College Park, Md. : Entomological Society of America. Journal of economic entomology. Dec 1984. v. 77 (6). p. 1500-1503. Includes references. (NAL Call No.: DNAL 421 J822).

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Schuster, M.F. MS-CR. Mississippi State, The Station. Technical bulletin - Mississippi. Agricultural and Forestry Experiment Station. Mar 1980. Mar 1980. (98). 16 p. (NAL Call No.:

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Effect of traditional insect-repellent plants on insect numbers in a mixed planting system.
Matthews, D.L. Michalak, P.S.; MacRae, R.J. New York : Praeger, 1983. Environmentally sound agriculture : selected papers, 4th conference, International Federation of Organic Agriculture Movements, Cambridge, Mass., August 18-20, 1982 / edited by William Lockeretz. p. 117-127. Includes references. (NAL Call No.: DNAL S604.5.E58).

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Evaluation of modified Powr-Till seeder for soil incorporation of carbofuran to provide insect control and minimize bird mortality in pine seed orchards /N.A. Overgaard ... et al. . -.
Overgaard, N. A. Atlanta, Ga. : U.S. Dept. of Agriculture, Forest Service, Southern Region, 1983. "April 1983." iii, 35 p. : ill., map ; 28 cm. -. Bibliography: p. 14. (NAL Call No.: DNAL aSD11.U5962 no.3).

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Evaluation of pesticides for improving alfalfa establishment in conventional and no-till sod planting (Damage of pillbugs and slugs).
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An evaluation of three early maturing cotton cultivars for production potential and insect damage in reduced- and conventional-tillage systems.

Roach, S.H. Culp, T.W. Clemson, S.C. : South Carolina Entomological Society. Journal of agricultural entomology. July 1984. v. 1 (3). p. 249-255. Includes references. (NAL Call No.: DNAL SB599.U69).

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AGJDAT. Rogers, D.D. Chamblee, D.S.; Mueller, J.P.; Campbell, W.V. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1985. v. 77 (1). p. 150-157. Includes 15 references. (NAL Call No.: DNAL 4 AM34P).

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Feeding behavior of lesser cornstalk borer (*Elasmopalpus lignosellus*) larvae in simulations of no-tillage, mulched conventional tillage, and conventional tillage corn cropping systems.

Cheshire, J.M. Jr. All, J.N. College Park, Md., Entomological Society of America. Environmental entomology. Apr 1979. v. 8 (2). p. 261-264. ill. 9 ref. (NAL Call No.: QL461.E532).

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Sloderbeck, P.E. JEENA. Yeargan, K.V. College Park : Entomological Society of America. Journal of economic entomology. Aug 1983. v. 76 (4). p. 785-791. Includes references. (NAL Call No.: 421 J822).

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Mangan, R.L. Byers, R.A.; Wutz, A.; Templeton, W.C. Jr. College Park, Md., Entomological Society of America. Environmental entomology. Feb 1982. v. 11 (1). p. 255-260. Includes 10 ref. (NAL Call No.: QL461.E532).

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Foster, M.A. Ruesink, W.G. College Park, Md. : Entomological Society of America. Environmental entomology. June 1984. v. 13 (3). p. 664-668. Includes references. (NAL Call No.: QL461.E532).

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Influence of habitat modification and multiple cropping on insect populations in vegetable and row crops in the Eastern United States.

Chalfant, R.B. Musick, G.J. Minneapolis, Minn. : Published for the Congress by Burgess Pub., c1981. Proceedings of symposia : IX International Congress of Plant Protection. Washington, D.C., U.S.A., August 5-11, 1979 / editor, Thor Kommedahl. p. 57-60. Includes 36 ref. (NAL Call No.: SB951.I5 1979).

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Influence of intercropping on *Phyllotreta cruciferae* (*Coleoptera: Chrysomelidae*) populations on collard plants.

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All, J.N. Gallaher, R.N. College Park, Entomological Society of America. Journal of economic entomology. Apr 15, 1979. v. 72 (2). p. 265-268. ill. 14 ref. (NAL Call No.: 421 J822).

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Influence of tillage practices and row spacing on soybean insect populations in Louisiana.
JEENAI. Troxclair, N.N. Jr. Boethel, D.U.
College Park, Md. : Entomological Society of America. Journal of economic entomology. Dec 1984. v. 77 (6). p. 1571-1579. Includes references. (NAL Call No.: DNAL 421 J822).

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Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan 1980. (8). p. 34-38. 7 ref. (NAL Call No.: S1.D5).

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Insect control in no-till corn.
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0458

Insect populations in cotton produced under conservation tillage (*Peridroma saucia*, *Lygus lineolaris*, *Heliothis* spp., *Gossypium hirsutum*, *Trifolium incarnatum*, cutworms, tarnished plant bugs, bollworms, budworms, crimson clover).
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Insect relationships in no-tillage cropping.
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0462

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Raney, H. KY. Lexington, Ky., The Service. ENT - University of Kentucky, Cooperative Extension Service. Oct 1979. Oct 1979. (16). 8 p. (NAL Call No.: 275.29 K415E).

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0464

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Sherrod, D.W. Virginia Beach, Va., Virginia Polytechnic Inst. and State University Cooperative Extension Service. The Vegetable growers news. July/Aug 1982. v. 37 (1). p. 8. (NAL Call No.: 275.28 V52).

0465

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CAGRA. Zehnder, G.W. Trumble, J.T. Berkeley : The Station. California agriculture - California Agricultural Experiment Station. Nov/Dec 1984. v. 38 (11/12). p. 7-8. ill. Includes references. (NAL Call No.: DNAL 100 C12CAG).

0466

Invertebrate organisms associated with alfalfa seedling loss in complete-tillage and no-tillage plantings (*Slugs*, *Agriolimax reticulatus*, *Nemobius* spp. crickets).
Grant, J.F. JEENA. Yeargan, K.V.; Pass, B.C.; Parr, J.C. College Park : Entomological Society of America. Journal of economic entomology. Oct

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Snyder, W.D. Denver, The Division. Game research report. Colorado. Division of Wildlife. Apr 1979. Apr 1979. p. 247-248. (NAL Call No.: 412.9 C71Q).

0468

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Harrison, F.P. Bean, R.A.; Qawiyy, D.J. College Park, Md., Entomological Society of America. Journal of economic entomology. June 1980. v. 73 (3). p. 363-365. ill. 2 ref. (NAL Call No.: 421 J822).

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Parasitoids of *Heliothis* spp. (Lepidoptera: Noctuidae) larvae in Mississippi associated with sesame interplantings in cotton, 1971-1974: implications of host-habitat interaction.
Pair, S.D. Laster, M.L.; Martin, D.F. College Park, Md., Entomological Society of America. Environmental entomology. Apr 15, 1982. v. 11 (2). p. 509-512. Ref. (NAL Call No.: QL461.E532).

0470

Pests and their control. Insect management (No-tillage, multicropping systems, corn insects).
Gregory, W.W. Raney, H.G. Lexington : The University, (1980?). No-tillage research: research reports and reviews / R. E. Phillips, G. W. Thomas and R. L. Blevins, editors ; University of Kentucky, College of Agriculture and Agricultural Experiment Station, Lexington. p. 55-68. 29 ref. (NAL Call No.: S604.N64).

0471

***Plathypena scabra* (F.) (Lepidoptera: Noctuidae) populations and the incidence of natural enemies in four soybean tillage systems.**
JEENAI. Thorvilson, H.G. Pedigo, L.P.; Lewis, L.C. College Park, Md. : Entomological Society of America. Journal of economic entomology. Feb 1985. v. 78 (1). p. 213-218. Includes references. (NAL Call No.: DNAL 421 J822).

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Population fluctuations and interplant movements of *Lygus lineolaris* (Pest of field and vegetable crops).
Khattat, A.R. Stewart, R.K. College Park, Md., The Society. Annals of the Entomological Society of America. May 1980. v. 73 (3). p. 282-287. ill. 21 ref. (NAL Call No.: 420 EN82).

0473

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ORROA. Brust, G.E. McCartney, D.A.; Stinner, B.R. Wooster, Ohio : The Center. Ohio report on research and development in agriculture, home economics, and natural resources - Ohio Agricultural Research and Development Center. May/June 1985. v. 70 (3). p. 35-36. (NAL Call No.: DNAL 100 DH3S (3)).

0474

Recovery in blacklight traps of marked bollworms (*Heliothis zea*) released in a multiple cropped area (Corn, sorghum, and cotton).
Lopez, J.D. Jr. Hartstack, A.W. Jr. College Station, Tex., Southwestern Entomological Society. The Southwestern entomologist. Mar 1979. v. 4 (1). p. 46-52. ill. 10 ref. (NAL Call No.: QL461.S65).

0475

Reduction of greenbug (Homoptera:Aphididae) populations by surface residues in wheat tillage studies.
JEENAI. Burton, R.L. Krenzer, E.G. Jr. College Park, Md. : Entomological Society of America. Journal of economic entomology. Apr 1985. v. 78 (2). p. 390-394. ill. Includes references. (NAL Call No.: DNAL 421 J822).

0476

Seedcorn maggot (Diptera: Anthomyiidae) emergence in conventional and reduced-tillage soybean systems in Iowa (*Hylemya platura*).
Funderburk, J.E. Pedigo, L.P.; Berry, E.C. College Park, Md. : Entomological Society of America. Journal of economic entomology. Feb 1983. v. 76 (1). p. 131-134. Includes references. (NAL Call No.: 421 J822).

0477

Some observations on ecology of the stalk borer (*Papaipema nebris* (Gn.):Noctuidae) in no-tillage corn agroecosystems (Ohio).
Stinner, B.R. McCartney, D.A.; Rubink, W.L. Athens, Ga. : The Society. Journal of the Georgia Entomological Society. Apr 1984. v. 19

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(2). p. 229-234. Includes references. (NAL Call No.: QL461.G4).

O478

**Southern corn billbug
(Coleoptera:Curculionidae) and plant-parasitic
nematodes: influence of no-tillage,
coulters-in-row-chiseling, and insecticides on
severity of damage to corn (Sphenophorus
callosus, Hoplolaimus columbus, Crictonemella
spp.).**

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Park, Md. : Entomological Society of America.
Journal of economic entomology. Feb 1984. v. 77
(1). p. 178-182. ill. Includes references. (NAL
Call No.: 421 J822).

O479

**1979 insecticide recommendations for
conventional and no-tillage field corn.**
Gregory, W. Lexington, Ky., The Service.
ENT.Kentucky. University. Cooperative Extension
Service. Dec 1978. Dec 1978. (16). 8 p. (NAL
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0480

Nematode population and community dynamics in soybean-wheat cropping and tillage regimes.
JONEB. Baird, S.M. Bernard, E.C. Raleigh, N.C.
: Society of Nematologists. Journal of
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ill. Includes 19 references. (NAL Call No.:
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0481

Nematodes in no-tillage agroecosystems (Phytophagous pests, soil fauna).
Stinner, B.R. Crossley, D.A. Jr. Austin :
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soil ecosystems / edited by Diana W. Freckman ;
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0482

Southern corn billbug (Coleoptera:Curculionidae) and plant-parasitic nematodes: influence of no-tillage, coulter-in-row-chiseling, and insecticides on severity of damage to corn (Sphenophorus callosus, Hoplolaimus columbus, Criconemelia spp.).
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PLANT DISEASES - GENERAL

0483

Conservation tillage and corn diseases.

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0484

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Boosalis, M.G. Doupnik, B.; Odvody, G.N. Boca Raton, Fla., CRC Press. CRC handbook of pest management in agriculture. 1981. Literature review. v. 1. p. 445-474. 201 ref. (NAL Call No.: SB950.C7).

0485

Consider plant disease in row crop conservation tillage.

Watkins, J.E.FRHQA. Boosalis, M.G.; Doupnik, B.L. Lincoln : The Station. Farm, ranch and home quarterly - Nebraska Agricultural Experiment Station. Spring/Summer 1983. v. 30 (1). p. 14-17. ill. (NAL Call No.: 100 N27N).

0486

Effects of reduced tillage and multiple cropping on plant diseases.

Sumner, D.R. Doupnik, B. Jr.; Boosalis, M.G. Palo Alto, Annual Reviews. Annual review of phytopathology. 1981. Literature review. v. 19. p. 167-187. 111 ref. (NAL Call No.: 464.8 AN72).

0487

What's the potential of disease incidence of corn in conservation tillage.

Nyvall, R.R. Washington, D.C., The Conference. Proceedings of the ... annual corn and sorghum industry research conference - American Seed Trade Association, Corn and Sorghum Division, Corn and Sorghum Research Conference. 1982. Literature review. 1982. (36th). p. 159-175. 63 ref. (NAL Call No.: 59.9 AM32).

PLANT DISEASES - FUNGAL

0488

Avocados planted among citrus may help ensure the future.

Borst, G. Vista, Calif. : Rancher Pub. Avocado grower. Apr 1984. v. 8 (4). p. 19-20. ill. Includes 5 references. (NAL Call No.: DNAL SB379.A9A9).

0489

Can interplanting citrus control Phytophthora cinnamomi disease? (California avocado).

Borst, G. Vista, Calif. : Rancher Pub. Avocado grower. Apr 1982. v. 6 (4). p. 27-28. ill. Includes references. (NAL Call No.: SB379.A9A9).

0490

Control of foliar, pod and stem diseases of no-till soybeans, 1980 (Soybean (Glycine max 'Davis'), foliar disease; Cercospora sojae, Septoria glycines, pod and stem disease; Glomerella glycines, Phomopsis sp.).

Shakes, F.M. Wright, D.L.; Sprenkel, R.K. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 100. (NAL Call No.: 464.9 AM31R).

0491

Effects of management practices on nematode and fungus populations and cucumber yield (Multiple cropping).

Johnson, A.W. Sumner, D.R. Ames, Iowa Society of Nematologists. Journal of nematology. Jan 1979. v. 11 (1). p. 84-93. ill. 16 ref. (NAL Call No.: QL391.N4J62).

0492

Evaluation of deep-chiseled anhydrous ammonia as a control for Phymatotrichum root rot of cotton (Phymatotrichum omnivorum, soil fumigation, deep chisel plowing).

Rush, C.M. Lyda, S.D. St. Paul, Minn. : American Phytopathological Society. Plant disease. Apr 1984. v. 68 (4). p. 291-293. Includes references. (NAL Call No.: 1.9 P69P).

0493

Evaluation of planter box seed treatment fungicides on stand of commercially treated seed in reduce-tillage, double-crop sunflowers, 1982 (Seedling blight and seed rot, Pythium spp., Fusarium spp., Helianthus annuus).

Lipps, P.E. FNETD. Herr, L.J. (s.l.) : The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1983. v. 38. p. 34. (NAL Call No.: 464.9 AM31R).

0494

Increased take-all of wheat with direct drilling in the Pacific Northwest (Gaeumannomyces graminis tritici, conservation tillage, Washington).

Moore, K.J. Cook, R.J. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Sept 1984. v. 74 (9). p. 1044-1049. ill. Includes 20 references. (NAL Call No.: 464.8 P56).

0495

Influence of crop rotation and minimum tillage on the population of Aspergillus flavus group in peanut field soil (Fungi).

Griffin, G.J. Garren, K.H.; Taylor, J.D. St. Paul, Minn., American Phytopathological Society. Plant disease. Nov 1981. v. 65 (11). p. 898-900. 14 ref. (NAL Call No.: 1.9 P69P).

0496

Interplanting: is it worth the headaches? (Citrus and avocados, Phytophthora cinnamomi, cultural control).

Vista, Calif., Rancher Publications. Avocado grower. Nov 1980. v. 4 (11). p. 26-27. ill. (NAL Call No.: SB379.A9A9).

0497

Interplanting susceptible and resistant radish cultivars reduces colonization by Plasmodiophora brassicae.

Kroll, T.K. Moore, L.D.; Lacy, G.H. Alexandria, Va. : American Society for Horticultural Science. HortScience. June 1984. v. 19 (3,sec.1). p. 403-404. Includes references. (NAL Call No.: SB1.H6).

0498

New disease found in no-tilled wheat, barley. CRSOA. Madison, Wis. : American Society of Agronomy. Crops and soils magazine. Oct 1984. v. 37 (1). p. 26. ill. (NAL Call No.: DNAL 6 W55).

0499

Soybean seed and soil fungicide evaluation with no-till and conventional plow-plant systems, 1980 (Soybean (Glycine max 'McCurdy ML3'), pre- and postemergence damping-off, various seed and soil-borne organisms).

Shokes, F.M. Sprenkel, R.K.; Wright, D.L. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 164. (NAL Call No.: 464.9 AM31R).

MISCELLANEOUS PLANT DISORDERS

0500

Effect of planting equipment and time of application on injury to no-tillage corn from pendimethalin-triazine mixtures.

Hartwig, N.L. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. v. 34. p. 68-73. ill. 1 ref. (NAL Call No.: 79.9 N814).

0501

Identification and evaluation of soil chemical and physical properties limiting root development in Louisiana soils (Soybeans, wheat, minimum tillage, yields).

Dabney, S.M. Baton Rouge : The Department. Report of projects - Louisiana Agricultural Experiment Station, Department of Agronomy. 1982. p. 290-299. ill. (NAL Call No.: 100 L936).

0502

Inhibition of pitted morning glory (*Ipomaea lacunosa* L.) and certain other weed species by phytotoxic components of wheat (*Triticum aestivum* L.) straw (in no-till cropping systems).

Liebl, R.A. JCECD. Worsham, A.D. New York : Plenum Press. Journal of chemical ecology. Aug 1983. v. 9 (8). p. 1027-1043. ill. Includes references. (NAL Call No.: QD415.A1J6).

0503

Rye residues contribute weed suppression in no-tillage cropping systems (Agroecosystems, biomass).

Barnes, J.P. JCECD. Putnam, A.R. New York : Plenum Press. Journal of chemical ecology. Aug 1983. v. 9 (8). p. 1045-1057. ill. Includes references. (NAL Call No.: QD415.A1J6).

0504

Stability of soybean harvest index (within cultivars, Drought stress effects, interplant competition, Florida, New York).

Spaeth, S.C. Randall, H.C.; Sinclair, T.R.; Vendeland, J.S. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1984. v. 76 (3). p. 482-486. ill. Includes references. (NAL Call No.: 4 AM34P).

WEEDS

0505

Alachlor (lasso) and metolachlor (dual) comparisons in conventional and reduced tillage systems (Weed control in corn).
Strek, H.J. Weber, J.B. Auburn, Ala., The Society. Proceedings - Southern Weed Science Society. 1981. 1981. (34th). p. 33-40. ill. Includes 5 ref. (NAL Call No.: 79.9 S08).

0506

Annual progress report - 1980 / Iowa State University.
Document available from: Iowa State University, Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011 1980. This publication is a progress report and should not be considered conclusive. The topics covered are soil moisture report, K fertilization for corn and soybeans, sunflower populations, conservation tillage, crop disease trap plots, corn herbicides, spring wheat variety demonstration, musk thistle control, grain sorghum trial, and small grain selection. 17 p. : ill. (NAL Call No.: Document available from source.).(NAL Call No.: DRC 80-10).

0507

Annual progress report - 1980 : Shelby-Grundy Research Center, Beaconsfield, Iowa / Iowa State University of Science and Technology.
1981. This publication provides test information on grain sorghum, winter wheat, birdsfoot trefoil, and alfalfa management. Limestone rates and pasture interseeding systems are covered. Document available from: Iowa State Univ., Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011. 14 p. : ill. (NAL Call No.: Not available at NAL.).(NAL Call No.: DRC 80-02).

0508

Atrazine carryover in soil in a reduced tillage crop production system.
Burnside, D.C. Wicks, G.A. Champaign, Ill., Weed Science Society of America. Weed science. May 1980. v. 28 (6). p. 661-666. 25 ref. (NAL Call No.: 79.8 W41).

0509

Atrazine efficacy and longevity as affected by tillage, liming, and fertilizer type (Herbicide residue, under no-tillage and conventional systems in North Carolina).
Lowder, S.W. Weber, J.B. Champaign, Ill., Weed Science Society of America. Weed science. May 1982. v. 30 (3). p. 273-280. Includes 25 ref. (NAL Call No.: 79.8 W41).

0510

Bladex: a solid option for no-till "burndown".
Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Dec 1984. v. 12 (12). p. 6. ill. (NAL Call No.: DNAL S604.N6).

0511

Breaking ground in minimum-till weed control.
PEAFA. Maeder, M. Raleigh, N.C. : Specialized Agricultural Publications. The peanut farmer. May 1985. v. 21 (5). p. 20. (NAL Call No.: DNAL SB351.A1P3).

0512

Changing weed problems with conservation tillage.
Burnside, D.C. St. Joseph, Mich. (P.O. Box 410), American Society of Agricultural Engineers, 1980. Crop production with conservation in the 80's : proceedings of the American Society of Agricultural Engineers Conference on Crop Production with Conservation in the 80's, December 1-2, 1980, Palmer House, Chicago, Illinois. p. 167-174. ill. 12 ref. (NAL Call No.: S494.5.P75C7).

0513

Chemical weed control in corn : 1981.
Wrage, Leon J. Arnold, W. E. Document available from: South Dakota State University, Ag. Information Bulletin Room, Extension Building, Brookings, South Dakota 57007 1981. This publication contains registered EPA herbicides for corn. Herbicide suggestions, reduced tillage systems furrow and top plant, band vs. broadcast, and irrigated corn are the topics discussed. 8 p. (NAL Call No.: Document available from source.).(NAL Call No.: FS 525C).

0514

Chemical weed control in small grain and flax: 1981.
Wrage, Leon J. Arnold, W. E. Document available from: South Dakota State University, Ag. Information Bulletin Room, Extension Building, Brookings, South Dakota 57007 1981. This publication discusses various herbicides for selected grain crops. Oats, winter wheat, rye, durum, hard red spring wheat, barley, flax, special weed problems, and no till small grain are specifically covered. Herbicides included are registered by the EPA. 8 p. : ill. (NAL Call No.: Document available from source.).(NAL Call No.: FS 525A).

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0515

Chemical weed control in sorghum : 1981.
Wrage, Leon J. Arnold, W. E. Document available from: South Dakota State University, Ag. Information Buletting Room, Extension Building, Brookings, South Dakota 57007 1981. This publication discusses herbicide suggestions, band vs. broadcast application, reduced tillage systems, and sorghum irrigation. The herbicides included have been registered by the EPA. 5 p. (NAL Call No.: Document available from source.). (NAL Call No.: FS 525D).

0516

Chemical weed control in sorghum: 1985.
Wrage, L.J. Arnold, W.E.; Johnson, P.O. Brookings, S.D. : The Service. FS - South Dakota State University, Cooperative Extension Service. Jan 1985. (525D). 11 p. (NAL Call No.: DNAL 275.29 S085FS).

0517

Combination of three residual herbicides for fall Panicum (dicotomifolium) control in no-tillage corn.
Parochetti, J.V. Beltsville, Md. Proceedings of the ... annual meeting Northeastern Weed Science Society. 1979. v. 33. p. 4. (NAL Call No.: 79.9 N814).

0518

Comparison of several non-selective herbicides in reduced tillage systems.
Bellinder, R.R. PNWSB. Wilson, H.P. Beltsville : The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. 1983. 1983. (37th). p. 20-26. ill. Includes references. (NAL Call No.: 79.9 N814).

0519

Competitive control of common lambsquarters (Chenopodium album) in a corn-soybean intercrop.
Moss, P.A. Hartwig, N.L. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. v. 34. p. 21-28. ill. 12 ref. (NAL Call No.: 79.9 N814).

0520

Control of broadleaf perennials in a no-tillage trefoil (Lotus corniculatus) seeding.
Nichols, R.L. Peters, R.A. Beltsville, Md. Proceedings of the ... annual meeting Northeastern Weed Science Society. 1979. v. 33. p. 34-40. ill. 11 ref. (NAL Call No.: 79.9 N814).

0521

Control of triazine resistant redroot pigweed (Amaranthus retroflexus) in conventional and no-tillage corn (Abstract only).
Ritter, R.L. Harris, T.C. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 41. p. 41. (NAL Call No.: 79.9 N814).

0522

Control of weeds in an oat (Avena sativa)-soybean (Glycine max) ecofarming rotation (Herbicides and reduced tillage).
Burnside, O.C. Wicks, G.A.; Carlson, D.R. Champaign, Ill., Weed Science Society of America. Weed science. Jan 1980. v. 28 (1). p. 46-50. ill. 15 ref. (NAL Call No.: 79.8 W41).

0523

Controlling weeds--conservation tillage is no barrier.
Kapusta, G. Stovgaard, R.V. Madison, Wis. : American Society of Agronomy. Crops and soils magazine. Apr/May 1984. v. 36 (7). p. 16-17. ill. (NAL Call No.: 6 W55).

0524

Conventional and no-till establishment of ladino clover as influenced by time of seeding and insect and grass suppression.
AGUDAT. Rogers, D.D. Chamblee, D.S.; Mueller, J.P.; Campbell, W.V. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1985. v. 77 (4). p. 531-538. Includes 15 references. (NAL Call No.: DNAL 4 AM34P).

0525

Early preplant herbicide applications for no-till soybean (Glycine max) weed control.
Stougaard, R.N. Kapusta, G.; Roskamp, G. Champaign, Ill. : Weed Science Society of America. Weed science. May 1984. v. 32 (3). p. 293-298. Includes references. (NAL Call No.: 79.8 W41).

0526

An economic assessment of zero tillage (feasibility of using herbicides) in wheat-fallow rotations in southern Alberta.
Zentner, R.P. Lindwall, C.W. Ottawa, Information Services, Agriculture Canada. Canadian farm economics. Dec 1978. v. 13 (6). p. 1-6. ill. 13 ref. (NAL Call No.: HD1401.C2).

0527

Effect of no-till systems on weed control and yields of continuous winter wheat (*Triticum aestivum*).

Cleary, C.L.WEESA. Peeper, T.F. Champaign : Weed Science Society of America. Weed science. Nov 1983. v. 31 (6). p. 813-818. Includes references. (NAL Call No.: 79.8 W41).

0528

The effect of soil pH on the activity of oryzalin and metribuzin on five common weeds in no-till crop production (Greenhouse study).

Robinson, E.L.CSOSA. New York : Marcel Dekker. Communications in soil science and plant analysis. 1982. v. 13 (11). p. 987-994. 16 ref. (NAL Call No.: S590.C63).

0529

Effect of three weed control regimes on no-till and tilled soybeans (*Glycine max*) (Conservation tillage, compacted soil).

Robinson, E.L.WEESA6. Langdale, G.W.; Stuedmann, J.A. Champaign : Weed Science Society of America. Weed science. Jan 1984. v. 32 (1). p. 17-19. Includes references. (NAL Call No.: 79.8 W41).

0530

Effect of timing and herbicides on the no-tillage establishment of red clover, alfalfa, and birdsfoot trefoil.

Nichols, R.L. Peters, R.A. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. Abstract only. v. 34. p. 91. (NAL Call No.: 79.9 N814).

0531

Effects of no-tillage and herbicides on carrot and onion seed production.

Campbell, W.F. Anderson, J.L. Alexandria, Va., American Society for Horticultural Science. HortScience. Oct 1980. v. 15 (5). p. 662-664. 111. 6 ref. (NAL Call No.: SB1.H6).

0532

Establishing soybeans in a no-tillage double-crop system with several herbicide combinations (Abstract only).

Chitapong, P. Ilnicki, R.D.; Horng, L.C. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 47.p. 47. (NAL Call No.: 79.9 N814).

0533

Establishment of alfalfa by conventional and minimum-tillage seeding techniques in a quackgrass (*Agropyron repens*)-dominant sward. Mueller-Warrant, G.W. Koch, D.W. Madison, Wis., American Society of Agronomy. Agronomy journal. Nov/Dec 1980. v. 72 (6). p. 884-889. 111. 9 ref. (NAL Call No.: 4 AM34P).

0534

Evaluation of a sprayer equipped combine for application of herbicides during harvest (Conservation tillage).

Downs, H.W. Gerling, J.F.; Fain, D. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-1504). 1 microfiche : 111. Includes references. (NAL Call No.: FICHE S-72).

0535

Evaluation of herbicide treatments for no-till snap bean production.

Mullins, C.A. Geneva, N.Y. : Bean Improvement Cooperative. Annual report of the Bean Improvement Cooperative. Mar 1985. v. 28. p. 111-113. (NAL Call No.: DNAL SB327.A1B5).

0536

Evaluation of 10-till demonstrations (Reduced tillage, weed control).

Stiegler, J. Stillwater : The Service. OSU current report - Oklahoma State University, Cooperative Extension Service. Apr 1983. Apr 1983. (2900). 2 p. (NAL Call No.: S451.0508).

0537

Exudation of glyphosate from wheat (*Triticum aestivum*) plants and its effects on interplanted corn (*Zea mays*) and soybeans (*Glycine max*) (Growth regulator, herbicide uptake, no-tillage).

Rodrigues, J.J.V. Worsham, A.D.; Corbin, F.T. Champaign, Ill., Weed Science Society of America. Weed science. May 1982. v. 30 (3). p. 316-320. Includes 22 ref. (NAL Call No.: 79.8 W41).

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0538

Fall and spring herbicide treatment for minimum-tillage seeding of alfalfa (*Medicago sativa*) (*Agropyron repens*, glyphosate, paraquat, pronamide).
Mueller-Warrant, G.W. WEESA. Koch, D.W.
Champaign : Weed Science Society of America.
Weed science. May 1983. v. 31 (3). p. 391-395.
Includes references. (NAL Call No.: 79.8 W41).

0539

Fall no-till seeding of alfalfa into tall fescue as influenced by time of seeding and grass and insect suppression.
AGJOAT. Rogers, D.D. Chamblee, D.S.; Mueller, J.P.; Campbell, W.V. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1985. v. 77 (1). p. 150-157. Includes 15 references. (NAL Call No.: DNAL 4 AM34P).

0540

Fall panicum competition in conventional and no-till corn (*Panicum dichotomiflorum*, abstract only).
Crane, S. Ilnicki, R.D. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 22. p. 22. (NAL Call No.: 79.9 N814).

0541

Favorite no-till weed "recipes".
Lessiter, Frank. Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Dec 1984. v. 12 (12). p. 5. ill. (NAL Call No.: DNAL S604.N6).

0542

Field results with oryzalin applied overtop of growing wheat for weed control in no-till soybeans (Herbicide).
Burnside, K.R. PNWSB. Rivera, C.M.; Schumann, F.W. Beltsville : The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. 1983. 1983. (37th). p. 33-38. Includes references. (NAL Call No.: 79.9 N814).

0543

Fit herbicide needs to your own program (Weed control in no-till soybeans).
Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. May 1984. v. 12 (5). p. 10. ill. (NAL Call No.: S604.N6).

0544

Forget foxtail--ridge-planting can help keep this weed out of beans for good.
Thompson, D. Thompson, S. Emmaus, Pa. : Regenerative Agriculture Association. The New farm. July/Aug 1984. v. 6 (5). p. 18-20. ill. (NAL Call No.: S1.N32).

0545

Future needs in weed science.
WEESA6. McWhorter, C.G. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1984. v. 32 (6). p. 850-855. Includes 42 references. (NAL Call No.: DNAL 79.8 W41).

0546

Get the most from incorporation tools.
Marking, S. St. Louis, Mo. : American Soybean Association. Soybean digest. Dec 1984. v. 45 (2). p. 57. ill. (NAL Call No.: DNAL 60.38 S09).

0547

Glyphosate and/or quackgrass effect on no-tillage alfalfa seeding in quackgrass sod (*Agropyron repens*).
Cardina, J. PNWSB. Hartwig, N.L. Beltsville : The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. 1983. 1983. (37th). p. 63-67. Includes references. (NAL Call No.: 79.9 N814).

0548

Guidelines.
Nelson, L. V. Robertson, L. S.; Erdmann, M. H.; Guisenberry, D.; White, R. G. & No till corn: 1. Document available from: Michigan State University, Bulletin Office, P.O. Box 231, East Lansing, Michigan 48824 1976. This publication discusses guidelines for no till corn including soil adaptation, equipment requirements, and control of weeds. 4 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: Extension Bulletin E-904).

0549

Herbicide effectiveness and weed populations in no-tillage corn.
Rieck, C.E. Minneapolis, Minn. : Published for the Congress by Burgess Pub., c1981. Proceedings of symposia : IX International Congress of Plant Protection, Washington, D.C., U.S.A., August 5-11, 1979 / editor, Thor Kommedahl. p. 65-66. (NAL Call No.: SB951.I5 1979).

0550

Herbicide programs and tillage systems for cabbage.

PNWSB. Bellinder, R.R. Hines, T.E.; Wilson, H.P. Beltsville, Md. : The Society. Proceedings of the ... annual meeting - Northeastern Weed Science Society. Jan 1984. v. 38. p. 191-194. Includes 8 references. (NAL Call No.: DNAL 79.9 N814).

0551

Herbicides for grass control in no-till planted soybeans.

MAEBB. Johnson, J.R. Arnold, B.L.; Hurst, H.R. Mississippi State, Miss. : The Station. Bulletin - Mississippi Agricultural & Forestry Experiment Station. Feb 1985. (936). 5 p. Includes 2 references. (NAL Call No.: DNAL S79.E3).

0552

Herbicides for sod-seeding establishment of alfalfa (*Medicago sativa*) in quackgrass (*Agropyron repens*)-infested alfalfa swards.
WEESA6. Leroux, G.D. Harvey R.G. Champaign, Ill. : Weed Science Society of America. Weed science. Mar 1985. v. 33 (2). p. 222-228. Includes 24 references. (NAL Call No.: DNAL 79.8 W41).

0553

Herbicides for 0 (zero)-till corn in (*Festuca arundinacea*) sod, 1978.

McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC.Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 37-41. ill. 1 ref. (NAL Call No.: S1.D5).

0554

Herbicides for 0 (zero)-till corn in soybean stubble, 1978.

McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC.Dixon Springs Agricultural Center. Jan 1979. Jan 1979. (7). p. 54-57. ill. 1 ref. (NAL Call No.: S1.D5).

0555

Herbicides in no-tillage systems involving wheat.

TAEMA. Wiese, A.F. Lavake, D.E. College Station, Tex. : The Station. Miscellaneous publication MP - Texas Agricultural Experiment Station. May 1984. (1547). 17 p. Includes references. (NAL Call No.: DNAL 100 T31M).

0556

Herbicide performance in no-tillage legume establishment in grain stubble (Alfalfa, red clover).

Vaughan, R.H. PNWSB. Linscott, D.L. Beltsville : The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. 1983. 1983. (37th). p. 68-72. Includes references. (NAL Call No.: 79.9 N814).

0557

Impact of carbofuran treatment on no-tillage alfalfa establishment (Abstract only).

Peters, R.A. Zaprzalka, J. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 76. p. 76. (NAL Call No.: 79.9 N814).

0558

Influence of flowering weeds associated with reduced tillage in corn on a black cutworm (*Lepidoptera:Noctuidae*) parasitoid, *Meteorus rubens* (Nees von Esenbeck) (*Agrotis ipsilon*).
Foster, M.A. Ruesink, W.G. College Park, Md. : Entomological Society of America. Environmental entomology. June 1984. v. 13 (3). p. 664-668. Includes references. (NAL Call No.: QL461.E532).

0559

Influence of nitrogen and corn population on no-tillage corn yield with and without crownvetch (*Coronilla varia*).

Cardina, J. Hartwig, N.L. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 27-31. ill. 5 ref. (NAL Call No.: 79.9 N814).

0560

Influence of weed control programs in intensive cropping systems.

WEESA6. Glaze, N.C. Dowler, C.C.; Johnson, A.W.; Sumner, D.R. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1984. v. 32 (6). p. 762-767. Includes 10 references. (NAL Call No.: DNAL 79.8 W41).

0561

Inhibition of pitted morning glory (*Ipomaea lacunosa* L.) and certain other weed species by phytotoxic components of wheat (*Triticum aestivum* L.) straw (in no-till cropping systems).

Liebl, R.A. JCECD. Worsham, A.D. New York : Plenum Press. Journal of chemical ecology. Aug 1983. v. 9 (8). p. 1027-1043. ill. Includes

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references. (NAL Call No.: QD415.A1J6).

0562

Innovative fallow systems for dryland wheat (Reduced tillage, use of herbicides, yield increases).

Schieferstein, R.H. Champaign, Ill., Weeds Today, Inc. Weeds today. Spring 1980. v. 11 (1). p. 11-12. ill. (NAL Call No.: SB610.W4).

0563

Insect and weed control in no-till alfalfa establishment.

Faix, J.U. IL. Kaiser, C.U.; Farris, M.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan 1980. (8). p. 34-38. 7 ref. (NAL Call No.: S1.D5).

0564

Interception and retention of atrazine by wheat (Triticum aestivum L.) stubble (Herbicide, minimum till, crop residue).

Ghadiri, H.WEESA6. Shea, P.J.; Wicks, G.A. Champaign : Weed Science Society of America. Weed science. Jan 1984. v. 32 (1). p. 24-27. ill. Includes references. (NAL Call No.: 79.8 W41).

0565

Minimum tillage techniques for establishing shrubs in clump plantings (Weed control, grasshopper damage).

Snyder, W.D. Denver, The Division. Game research report. Colorado. Division of Wildlife. Apr 1979. Apr 1979. p. 247-248. (NAL Call No.: 412.9 C71Q).

0566

Minimum tillage techniques for establishing shrubs in clump plantings (Wild plum (Prunus americana) and Hansen rose (Rosa sp.), Colorado, wildlife habitat development).

Snyder, W.D. Fort Collins : The Division. Special report - Colorado Division of Wildlife. Sept 1982. Sept 1982. (53). 17 p. ill., map. 10 ref. (NAL Call No.: SK375.C6).

0567

Minimum tillage with fall herbicide application (Sugarbeets).

Fornstrom, K.U. Alley, H.; Jackson, G.; McNamee, M.A. Laramie, The Station. Research journal - Wyoming Agricultural Experiment Station. Jan 1981. Jan 1981. (162). p. 41-45. (NAL Call No.: S131.E22).

0568

Multiple herbicide combinations for fall panicum (Panicum dichotomiflorum) control in no-tillage corn.

Parochetti, J.V. EX. Harris, T.C. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. v. 34. p. 59-67. ill. 3 ref. (NAL Call No.: 79.9 N814).

0569

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Reduced tillage weed control across Iowa (Includes herbicides evaluation).
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Vander Vost, P.B. AGJOA. Wicks, Gg.A.; Burnside, O.C. Madison : American Society of Agronomy. Agronomy journal. May/June 1983. v. 75 (3). p. 507-511. ill. Includes references. (NAL Call No.: 4 AM34P).

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Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Apr 1984. Apr 1984. p. 12. ill. (NAL Call No.: S604.N6).

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Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Oct 1984. v. 13 (10). p. 8. ill. (NAL Call No.: S604.N6).

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Herbicide incorporation and reduced tillage (Maize).

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Herbicides for 0-till corn in sod, 1979 (No-tillage, Illinois).

McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan 1980. (8). p. 49-52. Includes 1 ref. (NAL Call No.: S1.D5).

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Herbicides for 0-till corn in soybean stubble, 1979 (No-tillage systems, Illinois).

McKibben, G.E. Urbana-Champaign, Ill., Illinois Agricultural Experiment Station. DSAC - Dixon Springs Agricultural Center. Jan 1980. Jan 1980. (8). p. 57-60. Includes 1 ref. (NAL Call No.: S1.D5).

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The influence of straw mulch on the soil reception and persistence of metribuzin (Herbicide, in a no-till soybean system).

Banks, P.A. Robinson, E.L. Champaign, Ill., Weed Science Society of America. Weed science. Mar 1982. v. 30 (2). p. 164-168. ill. Includes 9 ref. (NAL Call No.: 79.8 W41).

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AGUOAT. Burnside, D.C. Moomaw, R.S. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1985. v. 77 (1). p. 36-40. Includes 11 references. (NAL Call No.: DNAL 4 AM34P).

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Non-informed against no-till herbicides (Paraquat, Gramoxone, Marijuana, illegal crops, toxic residues).

Lessiter, F. Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Oct 1984. v. 13 (10). p. 4-5. (NAL Call No.: S604.N6).

0633

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Pesticide use and practices, 1982.

Duffy, M. Washington : The Department. Extract: Pesticide use varies considerably by crop, according to the Economic Research Service's 1982 Crop and Livestock Pesticide Usage Survey. Eleven percent of farmers who responded used professional scouting for pest problems, 59 percent self scouted their fields, and 12 percent were aware of beneficial insects and diseases. The extent of no- or reduced-till systems varied by crop. Almost 70 percent of the farmers with livestock used insecticides for livestock insect control. A majority of the respondents used common pesticide application safety equipment and 15 percent used specialized safety equipment. Agriculture information bulletin - U.S. Dept. of Agriculture. Dec 1983. Predominantly tables. Dec 1983. (462). 14 p. (NAL Call No.: 1 AG84AB).

0635

Triazine (herbicide) persistence in soil in eastern Ohio (under conventional and no-till managements of maize).

Nearpass, D.C. Edwards, W.M. Madison. Agronomy journal American Society of Agronomy. Nov/Dec 1978. v. 70 (6). p. 937-940. ill. 12 ref. (NAL Call No.: 4 AM34P).

SOIL SCIENCE

0636

**Saving Buena Vista County soil with
conservation tillage & terraces.**

Buena Vista County Soil Conservation District.
Lincoln U.S.D.A., Soil Conservation Service
1979. (9) p. : ill., maps (some col.). (NAL
Call No.: aS627.T4B9).

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0637

Aerobic and anaerobic microbial populations in no-till and plowed soils.

Linn, D.M. Doran, J.W. Madison, Wis. : The Society. Journal - Soil Science Society of America. July/Aug 1984. v. 48 (4). p. 794-799. Includes 14 references. (NAL Call No.: 56.9 S03).

0638

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Burnside, O.C. Wicks, G.A. Champaign, Ill., Weed Science Society of America. Weed science. Nov 1980. v. 28 (6). p. 661-666. 25 ref. (NAL Call No.: 79.8 W41).

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Availability of ¹⁵N (nitrogen isotope)-labeled nitrogen in fertilizer and in wheat straw to wheat in tilled and no-till soil (Denitrification).

Fredrickson, J.K.SSSUD. Koehler, F.E.; Cheng, H.H. Madison : The Society. Journal - Soil Science Society of America. Nov/Dec 1982. v. 46 (6). p. 1218-1222. 28 ref. (NAL Call No.: 56.9 S03).

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Biochemical and microbiological aspects of conservation tillage: important considerations for Appalachian agriculture--a review.

CS0SA2. Foster, J.G. Wright, S.F.; Morton, J.B.; Bennett, O.L. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. Dec 1984. v. 15 (12). p. 1493-1512. Includes 99 references. (NAL Call No.: DNAL S590.C63).

0641

Denitrification in no-till and plowed soils (Minimum tillage, nitrogen, nitrous oxide).

Rice, C.W.SSSUD. Smith, M.S. Madison : The Society. Journal - Soil Science Society of America. Nov/Dec 1982. v. 46 (6). p. 1168-1173. 11. 19 ref. (NAL Call No.: 56.9 S03).

0642

Effect of water-filled pore space on carbon dioxide and nitrous oxide production in tilled and nontilled soils.

SSSUD4. Linn, D.M. Doran, J.W. Madison, Wis. : The Society. Journal - Soil Science Society of America. Nov/Dec 1984. v. 48 (6). p. 1267-1272. Includes 28 references. (NAL Call No.: DNAL 56.9 S03).

0643

Effectiveness of nitrapyrin with surface-applied fertilizer nitrogen in no-tillage.

Frye, W.W. Blevins, R.L.; Murdock, L.W.; Wells, K.L.; Ellis, J.H. Madison, Wis., American Society of Agronomy. Agronomy journal. Mar/Apr 1981. v. 73 (2). p. 287-289. 12 ref. (NAL Call No.: 4 AM34P).

0644

Fallow tillage influence on spring populations of soil nitrifiers, Denitrifiers, and available nitrogen (Conservation tillage, winter wheat, Nebraska).

Broder, M.W. Doran, J.W.; Peterson, G.A.; Fenster, C.R. Madison, Wis. : The Society. Journal - Soil Science Society of America. Sept/Oct 1984. v. 48 (5). p. 1060-1067. 11. Includes 29 references. (NAL Call No.: 56.9 S03).

0645

Farm agricultural resources management / Iowa State University.

Document available from: Iowa State University. Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011 1982. This publication gives extensive information about soil tillage practices. Also includes some operational costs and information about insects, weeds, and diseases in soil. 146 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: CE-1755).

0646

Gaseous nitrogen losses from soils under zero-till as compared with conventional-till management systems (Denitrification, nitrification).

Aulakh, M.S.JEVQAA. Rennie, D.A.; Paul, E.A. Madison : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1984. v. 13 (1). p. 130-136. Includes references. (NAL Call No.: QH540.J6).

0647

Microbial changes associated with (corn) residue management with reduced tillage.

Doran, J.W. AR-NC. Madison, Wis., The Society. Journal - Soil Science Society of America. May/June 1980. v. 44 (3). p. 518-524. 11. 14 ref. (NAL Call No.: 56.9 S03).

0648

**Nematodes in no-tillage agroecosystems
(Phytophagous pests, soil fauna).**

Stinner, B.R. Crossley, D.A. Jr. Austin :
University of Texas Press, 1982. Nematodes in
soil ecosystems / edited by Diana W. Freckman ;
foreword by J.A. Wallwork. p. 14-28. ill. 4 p.
ref. (NAL Call No.: QL391.N4N384 1982).

0649

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soils, soil conservation, fertilizer and lime
use, tillage seed selection and quality, crop
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Cost of alternative tillage systems in the winter wheat-dry pea area of the Palouse.

Mohasci, S.G. Hinman, H.R. Pullman, Wash., The Service. Extract: Costs and soil loss were determined for six tillage systems used in the dry pea-winter wheat area of the Palouse. No-till tillage saved the most topsoil, but had the highest crop-cycle costs, due to increased chemical costs. The system with the lowest costs used a cultivator for the initial tillage and saved nearly as much topsoil. Three other systems saved considerable amounts of topsoil when compared with moldboard plow tillage and had intermediate two-year costs. Extension bulletin - Washington State University, Cooperative Extension Service. Aug 1981. Aug 1981. (0943). 38 p. (NAL Call No.: 275.29 W27P).

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Krog, D.R. English, B.C.; Schatzer, R.J.; Heady, E.O. Ames, Iowa : The Center. Extract: The general purpose of this study is to determine, from a farmer's perspective, the economic feasibility of terracing in Iowa compared to other means of controlling soil erosion. Specific objectives are: (1) To determine the break-even costs for terracing on different Iowa soils under various farm situations. (2) To determine on which soils and under what economic conditions terraces are an economical practice for a farmer. (3) To compare the economics of terracing to that of other conservation practices such as reduced tillage practices, less intense crop rotations, contouring, and strip cropping. CARD report - Iowa State University, Center for Agricultural and Rural Development. Jan 1984. Includes Appendix of tables of costs and profit data, p. 108-164. Jan 1984. (123). 164 p. Includes 28 references. (NAL Call No.: 281.9 I093).

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An economic analysis of soil erosion control in a watershed representing corn belt conditions.

Nelson, M.C. Seitz, W.D. Urbana, Ill., Illinois University. Dept. of Agricultural Economics. Extract: The economic impacts of soil erosion control and nitrogen use controls at the farm and watershed levels of aggregation are presented. A multiple-farm-level linear programming model of the production of crops in five-year rotations is used. The model, constructed to represent a 100-year period, gives estimates of the impacts of soil loss and nitrogen use controls at the farm and watershed levels of aggregation over time. Estimates of the impacts on crop selections, soil losses, conservation, and tillage practices and net incomes at the farm and watershed levels are presented. North Central journal of

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Waelti, J.J. St. Paul, Minn., The Department. Extract: The market creates incentives for the producer which lead to a rate of soil erosion greater than that consistent with public policy objectives. Therefore, methods are needed to reduce soil erosion to levels consistent with public policy objectives. Technology oriented toward cropping and tillage practices more consistent with soil conservation is a step in that direction. The fostering of a "conservation ethic" may reduce the necessity for rules and regulations on cropping and tillage practices. Yet, as long as the market incentives lead to actions not consistent with social objectives,

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Soil loss from no-till cotton (Erosion, Mississippi).

Mutchler, C.K. McDowell, L.L.; Greer, J.D. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1984. Paper presented at the 1984 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1984. (fiche no. 84-2039). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1326

Soil loss reduction in Finley Creek, Indiana: an economic analysis of alternative policies.

JSWCA3. Lee, J.G. Lovejoy, S.B.; Beasley, D.B. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Jan/Feb 1985. v. 40 (1). p. 132-135. ill. Includes 7 references. (NAL Call No.: DNAL 56.8 J822).

1327

Soil loss reductions from conservation tillage practices (Water erosion).

Cogo, N.P. Moldenhauer, W.C.; Foster, G.R. Madison, Wis. : The Society. Journal - Soil Science Society of America. Mar/Apr 1984. v. 48 (2). p. 368-373. Includes references. (NAL Call No.: 56.9 S03).

1328

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Cosper, H.R. Washington, The Service. Extract: Soil taxonomy provides the method and precision to group soils according to the likely effects on crop yields of reduced tillage and no till practices. The use of taxonomy for this purpose is discussed and illustrated, including its advantages over the Capability Classification System. ESCS staff report - U.S. Dept. of Agriculture, Economics, Statistics, and Cooperatives Service. Mar 1979. Mar 1979. 35 p. maps. Includes ref. (NAL Call No.: 916762(AGE)).

1329

Specter of another Dust Bowl seems laid to rest (Soil conservation, eco-fallow tillage, no-till farming, Great Plains).

Schwien, J.D. Willis, W.D.; Grable, A.R. Washington, D.C. : U.S. Department of Agriculture. The Yearbook of agriculture. 1983. 1983. p. 422-429. ill. (NAL Call No.: 1 AG84Y).

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Stormy weather shows benefits of no-tilling (No-tillage, erosion, heavy rains, Kansas).

Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. Sept 1984. v. 13 (9). p. 5. (NAL Call No.: S604.N6).

(SOIL EROSION AND RECLAMATION)

1331

Switchgrass establishment by conservation tillage: planting date responses of two varieties (*Panicum virgatum*, useful for soil erosion control, reclamation of disturbed sites, nesting areas for upland birds and waterfowl, wildlife cover, and permanent pasture).

Panciera, M.T. Jung, G.A. Ankeny, IA : Soil Conservation Society of America. Journal of soil and water conservation. Jan/Feb 1984. v. 39 (1). p. 68-70. Includes references. (NAL Call No.: 56.8 J822).

1332

Tennessee researchers find no-till, double-cropped soybeans cut erosion.

Comis, D.L. Washington, D.C. : The Service. Soil & water conservation news - United States Dept. of Agriculture, Soil Conservation Service. July 1984. v. 5 (4). p. 10. ill. (NAL Call No.: aS622.S6).

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Tillage success depends on the soil.

CRSQA. Madison, Wis. : American Society of Agronomy. Crops and soils magazine. Feb 1985. v. 37 (5). p. 19. (NAL Call No.: DNAL 6 W55).

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Tillage system and residue cover effects on infiltration in northwestern Corn Belt soils (No-till, erosion control).

Lindstrom, M.J. Voorhees, W.B.; Onstad, C.A. Ankeny, IA : Soil Conservation Society of America. Journal of soil and water conservation. Jan/Feb 1984. v. 39 (1). p. 64-67. ill. Includes references. (NAL Call No.: 56.8 J822).

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Using simulation to assess the impacts of conservation tillage on movement of sediment and phosphorus into Lake Erie.

JSWCA3. Beasley, D.B. Monke, E.J.; Miller, E.R.; Huggins, L.F. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Mar/Apr 1985. v. 40 (2). p. 233-237. maps. Includes 11

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Wind erosion control methods.

Swan, James B. Halsey, Clifton.; Breyer, Dwayne. Document available from: University of Minnesota, Bulletin Room, 1420 Eckles Avenue, St. Paul, Minnesota 55108 1980. Lists control principles, methods, conservation tillage, wind barriers and emergency tillage. 1 sheet : ill. (NAL Call No.: Document available from source.).(NAL Call No.: FS No.33).0349F).

FORESTRY

1338

EASTSIDE SALEM SUSTAINED YIELD UNITS TEN-YEAR TIMBER MANAGEMENT PLAN, OREGON.

DEPARTMENT OF THE INTERIOR- BUREAU OF LAND MANAGEMENT. SALEM, OREGON DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT MAY 1983 (EPA: MAY 31, 1983). (PUR)IMPLEMENTATION OF A 10-YEAR TIMBER-MANAGEMENT PLAN FOR THE 159,898 ACRES OF PUBLIC LAND IN THE CLACKAMAS-MOLALLA AND SANTIAM SUSTAINED YIELD UNITS ON THE EAST SIDE OF THE SALEM DISTRICT OF OREGON IS PROPOSED. THESE LANDS, WHICH ARE PRIMARILY REVESTED OREGON AND CALIFORNIA RAILROAD LANDS, ARE WIDELY DISPERSED OVER PORTIONS OF CLACKAMAS, LINN, MARION, AND MULTNOMAH COUNTIES. THE PREFERRED MANAGEMENT PLAN WOULD INVOLVE ALLOCATION OF 93.3 MILLION BOARD-FEET OF TIMBER ANNUALLY FOR HARVEST FROM A 107,345-ACRE INTENSIVE TIMBER PRODUCTION BASE AND A 7,696-ACRE CONSTRAINED TIMBER BASE; CONSTRUCTION OF 91 MILES OF ROAD AND RECONSTRUCTION OF 50 MILES OF ROAD; PLANTATION PROTECTION MEASURES ON 4,603 ACRES; PLANTATION MAINTENANCE AND RELEASE ACTIVITIES ON 6,200 ACRES; AND FERTILIZATION ON 9,350 ACRES. TIMBER HARVEST ACTIVITIES FOR THE 10-YEAR PERIOD BETWEEN 1983 AND 1992 WOULD INVOLVE CLEARCUTTING ON 13,191 ACRES, SHELTERWOOD CUTTING ON 701 ACRES, MORTALITY SALVAGE CUTTING ON 1,113 ACRES, AND COMMERCIAL THINNING ON 1,691 ACRES. SITE PREPARATION ACTIVITIES WOULD INVOLVE BROADCAST BURNING OF 10,050 ACRES, HERBICIDE SPRAYING ON 1,691 ACRES, MANUAL SITE PREPARATION ON 1,100 ACRES, AND MECHANICAL SITE PREPARATION ON 2,400 ACRES. INITIAL PLANTING PROVISIONS WOULD BE IMPLEMENTED ON 12,896 ACRES, WHILE REPLANT OR INTERPLANT PROVISIONS WOULD BE IMPLEMENTED ON 7,093 ACRES. (POS)IN ADDITION TO PROVIDING MARKETABLE TIMBER PRODUCTS, THE PLAN WOULD PROVIDE FOR PROTECTION OF RIPARIAN ZONES TO BENEFIT WATER QUALITY AND FISH AND WILDLIFE HABITAT. SENSITIVE WILDLIFE HABITAT WOULD RECEIVE SPECIAL PROTECTION. CUMULATIVE SEDIMENTS PRODUCED AS A RESULT OF ACTIVITIES IN THE AREA WOULD DECREASE FROM EXISTING LEVELS. SLOW-GROWING TIMBER STANDS WOULD BE REPLACED BY YOUNG, FAST-GROWING STANDS. THE PLAN WOULD CREATE AN ADDITIONAL 379 JOBS AT AN ANNUAL WAGE OF \$5.1 MILLION. (NEG)TIMBER HARVESTING, ROAD CONSTRUCTION, AND PRESCRIBED BURNING WOULD DEGRADE AIR QUALITY PERIODICALLY AND INCREASE EROSION AND. USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 254 PAGES. (NAL Call No.: 83-

1339

EASTSIDE SALEM TIMBER MANAGEMENT, OREGON.

DEPARTMENT OF THE INTERIOR- BUREAU OF LAND MANAGEMENT. SALEM, OREGON DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT JANUARY 1982 (EPA: JANUARY 21, 1982). (PUR)IMPLEMENTATION OF A 10-YEAR TIMBER-MANAGEMENT PLAN FOR THE 159,898 ACRES OF PUBLIC LAND IN THE CLACKAMAS-MOLALLA AND SANTIAM SUSTAINED YIELD UNITS ON THE EAST SIDE OF THE SALEM DISTRICT OF OREGON IS PROPOSED. THESE LANDS, WHICH ARE PRIMARILY REVESTED

OREGON AND CALIFORNIA RAILROAD LANDS, ARE WIDELY DISPERSED OVER PORTIONS OF CLACKAMAS, LINN, MARION, AND MULTNOMAH COUNTIES. THE PREFERRED MANAGEMENT PLAN WOULD INVOLVE ALLOCATION OF 90.9 MILLION BOARD-FEET OF TIMBER ANNUALLY FOR HARVEST FROM A 102,901-ACRE INTENSIVE TIMBER PRODUCTION BASE AND AN 18,696-ACRE CONSTRAINED TIMBER BASE; CONSTRUCTION OF 96 MILES OF ROAD AND RECONSTRUCTION OF 50 MILES OF ROAD; PLANTATION PROTECTION MEASURES ON 4,362 ACRES; PLANTATION MAINTENANCE AND RELEASE ACTIVITIES ON 5,553 ACRES; PRECOMMERCIAL THINNING ON 11,162 ACRES; AND FERTILIZATION ON 7,984 ACRES. TIMBER HARVEST ACTIVITIES FOR THE 10-YEAR PERIOD BETWEEN 1983 AND 1992 WOULD INVOLVE CLEARCUTTING ON 12,880 ACRES, SHELTERWOOD CUTTING ON 674 ACRES, MORTALITY SALVAGE CUTTING ON 1,065 ACRES, AND COMMERCIAL THINNING ON 1,488 ACRES. SITE PREPARATION ACTIVITIES WOULD INVOLVE BROADCAST BURNING OF 11,343 ACRES, HERBICIDE SPRAYING ON 5,050 ACRES, MANUAL SITE PREPARATION ON 367 ACRES, AND MECHANICAL SITE PREPARATION ON 3,578 ACRES. INITIAL PLANTING PROVISIONS WOULD BE IMPLEMENTED ON 12,544 ACRES, WHILE REPLANT OR INTERPLANT PROVISIONS WOULD BE IMPLEMENTED ON 6,900 ACRES. (POS)IN ADDITION TO PROVIDING MARKETABLE TIMBER PRODUCTS, THE PLAN WOULD PROVIDE FOR PROTECTION OF RIPARIAN ZONES TO BENEFIT WATER QUALITY AND FISH AND WILDLIFE HABITAT. SENSITIVE WILDLIFE HABITAT WOULD RECEIVE SPECIAL PROTECTION. CUMULATIVE SEDIMENTS PRODUCED AS A RESULT OF ACTIVITIES IN THE AREA WOULD DECREASE FROM EXISTING LEVELS. SLOW-GROWING TIMBER STANDS WOULD BE REPLACED BY YOUNG, FAST-GROWING STANDS. THE PLAN WOULD CREATE AN ADDITIONAL 319 JOBS AT AN ANNUAL WAGE OF \$4.3 MILLION. (NEG)TIMBER HARVESTING, ROAD CONSTRUCTION, AND PRESCRIBED BURNING WOULD DEGRADE AIR QUALITY. USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 243 PAGES. (NAL Call No.: 82-01080).3-0350F).

1340

EUGENE SUSTAINED YIELD UNITS, TEN-YEAR TIMBER MANAGEMENT PLAN, OREGON.

DEPARTMENT OF THE INTERIOR- BUREAU OF LAND MANAGEMENT. EUGENE, OREGON DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT MAY 1983 (EPA: MAY 31, 1983). (PUR)IMPLEMENTATION OF A 10-YEAR TIMBER MANAGEMENT PLAN IS PROPOSED FOR 316,747 ACRES OF LAND ADMINISTERED BY THE BUREAU OF LAND MANAGEMENT WITHIN THE SIUSLAH AND UPPER WILLAMETTE SUSTAINED YIELD UNITS (SYUS) OF THE EUGENE DISTRICT OF OREGON. APPROXIMATELY 93 PERCENT OF THE EUGENE DISTRICT LIES IN LANE COUNTY, WITH THE REMAINDER SCATTERED THROUGHOUT LINN, BENTON, AND DOUGLAS COUNTIES. APPROXIMATELY 307,900 ACRES WITHIN THE SYUS ARE FORESTED. THE PREFERRED MANAGEMENT SCHEME WOULD CREATE AN EAST-WEST LINKAGE OF OLD-FOREST HABITAT BETWEEN THE COAST AND CASCADE RANGES AND A SYSTEM OF WILDLIFE CORRIDORS IDENTIFIED IN THE SOUTH COAST/CURRY RECORD OF DECISION AND ROSEBURG FINAL ENVIRONMENTAL IMPACT STATEMENT OF MAY 1983 (SEE 83-0351F). THE SYU PLAN WOULD DEVOTE 265,416 ACRES TO INTENSIVE TIMBER MANAGEMENT, WHILE

(FORESTRY)

10,900 ACRES WOULD BE MANAGED ON EXTENDED ROTATION OF 350 YEARS TO CREATE THE CORRIDOR. APPROXIMATELY 360 ADDITIONAL ACRES WOULD BE MANAGED ON EXTENDED ROTATION OF 120 YEARS TO PROTECT SCENIC VALUES WITHIN THE MCKENZIE RIVER CORRIDOR. SIX OUT OF SEVEN LARGE BLOCK AREAS, DESIGNATED COMPONENTS OF A SERAL STAGE DISTRIBUTION, WOULD ALSO BE INCORPORATED INTO THE CORRIDOR. RIPARIAN ZONES ALONG THIRD-ORDER STREAMS WOULD BE PROTECTED. TIMBER MANAGEMENT AND FOREST DEVELOPMENT PRACTICES WOULD INCLUDE MEASURES TO REDUCE IMPACTS TO WILDLIFE HABITAT IN EARLY FOREST SERAL STAGES. THE ANNUAL TIMBER SALE WOULD AMOUNT TO 223 MILLION BOARD-FEET. PLAN IMPLEMENTATION WOULD REQUIRE CONSTRUCTION OF 320 MILES OF FOREST ROAD, CLEARCUTTING OF 39,954 ACRES, MORTALITY SALVAGE OF TIMBER ON 1,046 ACRES, COMMERCIAL THINNING ON 13,084 ACRES, BROADCAST BURNING ON 25,500 ACRES, HERBICIDE APPLICATION ON 7,850 ACRES, MANUAL SITE PREPARATION ON 3,000 ACRES, MECHANICAL SITE PREPARATION ON 3,300 ACRES, INITIAL TREE PLANTING ON 38,510 ACRES, REPLANTING/INTERPLANTING ON 9,628 ACRES, PLANTATION PROTECTION ON 12,835 ACRES, PLANTATION MAINTENANCE/RELEASE ON 38,550 ACRES, PRECOMMERCIAL THINNING ON 14,011 ACRES. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 179 PAGES. (NAL Call No.: 8

1341

TIMBER RESOURCE MANAGEMENT PLAN, LAKEVIEW FEDERAL SUSTAINED YIELD UNIT, FREMONT NATIONAL FOREST.

DEPARTMENT OF AGRICULTURE~ FOREST SERVICE.
PORTLAND, OREGON DEPARTMENT OF AGRICULTURE,
FOREST SERVICE FEBRUARY 1979 (EPA: FEBRUARY 26,
1979). (PUR)A TEN-YEAR TIMBER-MANAGEMENT PLAN
IS PRESENTED FOR THE 667,000-ACRE LAKEVIEW
FEDERAL SUSTAINED-YIELD UNIT OF THE FREMONT
NATIONAL FOREST IN KLAMATH AND LAKE COUNTIES IN
SOUTH-CENTRAL OREGON. THE PROPOSED INTENSIVE
MANAGEMENT PROGRAM WOULD CALL FOR PROMPT
REFORESTATION OF ALL ACRES HARVESTED BY
REGENERATION METHODS; PRECOMMERCIAL THINNING OR
INTERPLANTING FOR STOCKING LEVEL CONTROL ON
NEEDED ADDITIONAL ACRES; RELEASE OF PLANTATIONS
FROM OTHER VEGETATIVE COMPETITION WHERE NEEDED;
REGENERATION. USDA EMPLOYEES REQUEST DOCUMENTS
FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER
FROM INFORMATION RESOURCES PRESS, 1700 NORTH
MOORE STREET, SUITE 700 ARLINGTON, VA 22209. 335
PAGES. (NAL Call No.: 79-0462F).

FORESTRY RELATED

1342

Douglas-fir stem growth per unit of leaf area increased by interplanted Sitka alder and red alder (*Pseudotsuga menziesii*, *Alnus sinuata*, *Alnus rubra*, ratio of leaf area to sapwood area, photosynthesis, British Columbian forests).

Binkley, D. Washington : Society of American Foresters. Forest science. Mar 1984. v. 30 (1). p. 259-263. ill. Includes references. (NAL Call No.: 99.8 F7632).

1343

Legume interplanting reduces growth of young loblolly pine on eroded Piedmont sites.

Nix, L.E. New Orleans, La. : The Station. Forest Service general technical report SO - United States, Southern Forest Experiment Station. Paper presented at the "Third Biennial Southern Silvicultural Research Conference," November 7/8, 1984, Atlanta, Georgia. Apr 1985. (54). p. 375-378. Includes references. (NAL Call No.: DNAL aSD11.U57).

FORESTRY PRODUCTION - GENERAL

1344

Shrubs for interplanting in developing ponderosa pine stands.

Bjugstad, A.J. Messner, H.E. Portland, Or., The
Society. Abstracts of papers presented at the
... annual meeting of the American Society of
Range Management. American Society of Range
Management. 1977. 1977. (30th). p. 15. (NAL
Call No.: SB193.A44).

FORESTRY PROD. - ARTIFICIAL REGENERATION

1345

Cover vegetation in filberts and Christmas trees (No-till methods, Oregon).
Lagerstedt, H. Corvallis, Or. : International Plant Protection Center, Oregon State University, 1982. Crop production using cover crops and sods as living mulches : workshop proceedings / edited by J.C. Miller and S.M. Bell. p. 56-66. (NAL Call No.: S661.5.C7).

1346

Effects of surface treatment and interplanting of shrub alter on growth of Douglas-fir on coal spoils.
Heilman, P.JEVQA. Madison : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1983. v. 12 (1). p. 109-113. 13 ref. (NAL Call No.: QH540.J6).

1347

Interplanting in old field loblolly pine plantations: results at time of first thinning.
Dierauf, T.A. Garner, J.W.; Olinger, H.L. Richmond, The Division. Occasional report - Virginia Division of Forestry, Department of Conservation and Economic Development. Virginia. Dept. of Conservation and Economic Development. Division of Forestry. Apr 1980. Apr 1980. (53). 7 p. ill. 2 ref. (NAL Call No.: SD12.V8V8).

FOREST PRODUCTS – PULP AND PAPER

1348

Issue in pollution control: interplant cost differences and economies of scale (Pulp and paper industry).

Pittman, R.W. Madison, University of Wisconsin Press. Land economics. Feb 1981. v. 57 (1). p. 1-17. Bibliography p. 13-15. (NAL Call No.: 282.8 J82).

ENTOMOLOGY RELATED

1349

Arthropods in no-tillage soybean agroecosystems: community composition and ecosystem interactions.
House, G.J. EMNGD. Stinner, B.R. New York : Springer International. Environmental management. Jan 1983. Literature review. v. 7 (1). p. 23-28. 111. Includes references. (NAL Call No.: HC79.E5E5).

1350

Farm agricultural resources management / Iowa State University.
Document available from: Iowa State University, Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011 1982. This publication gives extensive information about soil tillage practices. Also includes some operational costs and information about insects, weeds, and diseases in soil. 146 p. 111. (NAL Call No.: Document available from source.). (NAL Call No.: CE-1755).

1351

Intercropping as cultural pest control: prospects and limitations.
Risch, S.J. EMNGD. New York : Springer International. Environmental management. Jan 1983. Literature review. v. 7 (1). p. 9-14. (NAL Call No.: HC79.E5E5).

1352

Some observations on ecology of the stalk borer (*Papaipema nebris* (Gn.): Noctuidae) in no-tillage corn agroecosystems (Ohio).
Stinner, B.R. McCartney, D.A.; Rubink, W.L. Athens, Ga. : The Society. Journal of the Georgia Entomological Society. Apr 1984. v. 19 (2). p. 229-234. Includes references. (NAL Call No.: QL461.G4).

ANIMAL PRODUCTION

1353

Waterfowl production on zero tillage farms
(Manitoba).

Cowan, W.F.WLSBA. Bethesda : The Society.

Wildlife Society bulletin. Winter 1982. v. 10

(4). p. 305-308. 13 ref. (NAL Call No.:

SK357.A1W5).

ANIMAL ECOLOGY

1354

Arthropods in no-tillage soybean agroecosystems: community composition and ecosystem interactions.

House, G.U.EMNGD. Stinner, B.R. New York : Springer International. Environmental management. Jan 1983. Literature review. v. 7 (1). p. 23-28. ill. Includes references. (NAL Call No.: HC79.E5E5).

1355

Some observations on ecology of the stalk borer (*Papaipema nebris* (Gn.):Noctuidae) in no-tillage corn agroecosystems (Ohio).

Stinner, B.R. McCartney, D.A.; Rubink, W.L. Athens, Ga. : The Society. Journal of the Georgia Entomological Society. Apr 1984. v. 19 (2). p. 229-234. Includes references. (NAL Call No.: QL461.G4).

ANIMAL NUTRITION

1356

Digestibilities of silages made from corn interplanted with soybean or fababean.

Murphy, W.M. Welch, J.G.; Palmer, R.H.; Gilman, B.E.; Albers, C.W.; Dugdale, D.T. Champaign, Ill. : American Dairy Science Association. *Journal of dairy science*. July 1984. v. 67 (7). p. 1532-1534. Includes 9 references. (NAL Call No.: 44.8 J822).

1357

Evaluations of summer perennial grasses with and without interplanted clover under grazing with lactating dairy animals, 1980.

Morgan, E.B. Nelson, B.D.; Kilgore, L.; Mason, L.; Schilling, P.E.; Montgomery, C.R. Franklinton, The Experiment Station. Annual progress report - Southeast Louisiana Dairy and Pasture Experiment Station. 1980. 1980. p. 127-150. (NAL Call No.: S67.E22).

1358

Evaluations of summer perennial grasses with and without interplanted clover under grazing with lactating dairy animals, 1981 (Louisiana).

Morgan, E.B. Nelson, B.D.; Zeringue, L.; Mason, L.; Schilling, P.E.; Montgomery, C.R. Franklinton, La., The Station. Annual progress report - Southeast Louisiana Dairy and Pasture Experiment Station. 1981. 1981. p. 122-123. (NAL Call No.: S67.E22).

1359

Forage potentials of legume-interseeded pastures (*Bothriochloa* sp., lespedeza, alfalfa, fertilizer materials, Oklahoma).

Bokhari, U.G. Stillwater : The Station. Miscellaneous publication - Agricultural Experiment Station, Oklahoma State University. June 1982. June 1982. (112). p. 116-119. 1 ref. (NAL Call No.: 100 OK4 (3)).

1360

Interseeding crested wheatgrass ranges.

UTSCB. Provenza, F.D. Richards, J.H. Logan : The Station. Utah Science - Utah Agricultural Experiment Station. Fall 1984. v. 45 (3). p. 73-77. ill. Includes references. (NAL Call No.: DNAL 100 UT1F).

1361

The ultimate no-till systsem is a cow on grass.

AGREA. Pierce, R. Washington, D.C. : The Administration. Agricultural research - U.S. Department of Agriculture, Agricultural Research Service. May 1984 v. 32 (9). p. 8-10. ill. (NAL Call No.: DNAL 1.98 AG84).

PESTS OF ANIMALS – GENERAL AND MISC.

1362

**Intercropping as cultural pest control:
prospects and limitations.**

Risch, S.J. EMNGD. New York : Springer
International. Environmental management. Jan
1983. Literature review. v. 7 (1). p. 9-14.
(NAL Call No.: HC79.E5E5).

AGRICULTURAL ENGINEERING

1363

**Crop chemical delivery systems for the
'80s--and beyond.**

AGENA. Lundeen, R.W. St. Joseph, Mich. :
American Society of Agricultural Engineers.
Agricultural engineering. Oct 1985. v. 66 (10).
p. 13-15. (NAL Call No.: DNAL 58.8 AG83).

STRUCTURES AND STRUCTURAL EQUIPMENT

1364

Guidelines.

Nelson, L. V. Robertson, L. S.; Erdmann, M. H.; Guisenberry, D.; White, R. G. & No till corn: 1. Document available from: Michigan State University, Bulletin Office, P.O. Box 231, East Lansing, Michigan 48824 1976. This publication discusses guidelines for no till corn including soil adaptation, equipment requirements, and control of weeds. 4 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: Extension Bulletin E-904).

1365

Interseeding and modified renovation.

Derscheid, Lyle A. Johnson, James R. Document available from: South Dakota State University, Ag. Information Bulletin Room, Extension Building, Brookings, South Dakota 57007 19--?. This publication contains information on where to interseed, crops and varieties, width channel, row spacing, fertilizer, weed control, grazing, equipment, and companies who manufacture commercial interseeders. 5 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: FS 422).

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1366

Appropriate mechanization for no-tillage in the Tropics.

Garman, C.F. Ngambeki, D.S.; Navasero, N.C. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-5002). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1367

"Best bets" in no-tillage planters (Accurate seed placement, ease of adjustments and service).

Lessiter, F. Waukesha, Wis. : No-Till Farmer, Inc. No-till farmer. June 1984. v. 13 (6). p. 10. ill. (NAL Call No.: S604.N6).

1368

The Chisel-Planter---a minimum tillage system for winter wheat.

Peterson, C.L. Dowding, E.A. Moscow, Idaho. The Service. Current information series. Idaho. University. Cooperative Extension Service. June 1979. June 1979. (476). 4 p. ill. (NAL Call No.: 275.29 ID13IDC).

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The Chisel-Planter minimum tillage system (Farm equipment).

Peterson, C.L. TAAEA. Dowding, E.A.; Hawley, K.N.; Harder, R.W. St. Joseph : The Society. Transactions of the ASAE - American Society of Agricultural Engineers. Mar/Apr 1983. v. 26 (2). p. 378-383, 388. ill. Includes references. (NAL Call No.: 290.9 AM32T).

1370

Chisel plow induced changes in soil conditions.

Erbach, D.C. Cruse, R.M. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1981. Paper presented at the 1981 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1981. (fiche no. 81-1508). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1371

Conservation tillage goes to pasture (No-till planter, pasture improvement).

Maddox, V. Dfferman, E.E. Washington, D.C., The Service. Soil and water conservation news - United States Dept. of Agriculture, Soil Conservation Service. Mar 1982. v. 2 (12). p. 5. (NAL Call No.: aS622.S6).

1372

Conservation tillage equipment.

Johnson, R.R. (Beltsville, Md. : USDA, Agricultural Research Service, Northeastern Region, 1982). National Wheat Research Conference, Beltsville, Md., Oct. 26-28, 1982 / presented by Natl. Assoc. Wheat Growers Foundation in co-op. Agric. Res. Serv., USDA and Natl. Wheat Improvement Committee. Includes abstract. p. 137-138. (NAL Call No.: aSB191.W5N38 1982).

1373

Conservation tillage innovators (Combines no-till and conventional advantages).

Gillespie, M.S. Comis, D.L. Washington, D.C., The Service. Soil and water conservation news - United States Dept. of Agriculture, Soil Conservation Service. Feb 1982. v. 2 (11). p. 14-15. ill. (NAL Call No.: aS622.S6).

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Conservation tillage: seeding equipment examined.

FRHQA. Smith, J.A. Klocke, N.L. Lincoln, Neb. : The Station. Farm, ranch and home quarterly - Nebraska Agricultural Experiment Station. 1984/1985. v. 31 (2). p. 12-15. ill. (NAL Call No.: DNAL 100 N27N).

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4-5. ill. (NAL Call No.: 100 P381S).

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Back, W.B. USDA. Cowherd, J. Energy in agriculture collection - Michigan State University, Department of Agricultural Engineering. May 1975. Source: United States, Dept. of Agriculture. May 1975. 34 p. ill. 27 ref. (NAL Call No.: No Call No. (ENR)).

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Colvin, T.S. Lafien, J.M.; Marley, S.J. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1983. Paper presented at the 1983 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1983. (fiche no. 83-1515). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).1055D).(NAL Call No.: 82-0682F).

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BURNHAM CREEK WATERSHED, POLK COUNTY, MINNESOTA.

EAST POLK SOIL AND WATER CONSERVATION DISTRICT. ST. PAUL, MINNESOTA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE FEBRUARY 1982 (EPA: AUGUST 26, 1982). (PUR)IMPLEMENTATION OF A WATERSHED PROTECTION AND FLOOD PREVENTION PLAN WITHIN THE 104,200-ACRE BURNHAM CREEK WATERSHED IN SOUTHWESTERN POLK COUNTY, MINNESOTA IS PROPOSED. THE COUNTY LIES IN THE NORTHWESTERN PORTION OF THE STATE. THE PLAN WOULD INCLUDE LAND TREATMENT, CONSTRUCTION OF A MULTIPLE-PURPOSE FLOODWATER-RETARDING AND WILDLIFE-ENHANCEMENT STRUCTURE, 14.4 MILES OF CHANNEL WORK, AND PRESERVATION OF A 26-ACRE NATURAL AREA. PRIORITY LAND-TREATMENT MEASURES WOULD INVOLVE TREATMENT OF A MINIMUM OF 50 PERCENT OF THE INADEQUATELY PROTECTED CROPLAND WITHIN THE IMMEDIATE AREA OF THE CHANNEL WORK AND IN THE DRAINAGE AREA OF THE MULTIPLE-PURPOSE STRUCTURE. THIS TREATMENT WOULD COVER 5,500 ACRES. THE SECOND PRIORITY LAND-TREATMENT MEASURES WOULD INVOLVE TREATMENT OF A MINIMUM OF 50 PERCENT OF THE INADEQUATELY PROTECTED CROPLAND IN THE REMAINING SECTIONS OF THE WATERSHED. THIS TREATMENT WOULD COVER 3,200 ACRES. LAND TREATMENTS WOULD INCLUDE 5,800 ACRES OF CRP RESIDUE USE, 2,900 ACRES OF CONSERVATION TILLAGE SYSTEMS, 10 MILES OF FIELD WINDBREAKS, FIVE GRADE-STABILIZATION STRUCTURES, AND FIVE WATER CONTROL STRUCTURES. THESE MEASURES WOULD BE INSTALLED VOLUNTARILY BY LANDOWNERS AND OPERATORS. THE MULTIPLE-PURPOSE STRUCTURE, WHICH WOULD CONSIST OF AN 18-FOOT-HIGH EMBANKMENT DAM AND A 1,210-ACRE-FLOOD RESERVOIR, WOULD CONTROL RUNOFF FROM 8.1 SQUARE MILES OF DRAINAGE AREA. ACQUISITION OF THREE ACRES OF LAND ON EASEMENTS AND 338 ACRES OF LAND IN FEE WOULD BE REQUIRED FOR CONSTRUCTION OF THE DAM AND RESERVOIR. A

95-ACRE WILDLIFE POOL WOULD BE ESTABLISHED WITHIN THE RESERVOIR, AND PRAIRIE PLANT SPECIES WOULD BE PLANTED FOR NESTING COVER AND WILDLIFE HABITATION ON THE REMAINING LAND. CHANNEL WORK WOULD INCLUDE MODIFICATION OF 12.5 MILES OF ARTIFICIAL DITCHES OR PREVIOUSLY MODIFIED CHANNEL AND 1.9 MILES OF WELL-DEFINED NATURAL CHANNEL. ESTIMATED COST OF THE FIVE-YEAR PROJECT IS \$3.0 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.3. (PDS)THE PROJECT WOULD REDUCE EROSION ON 8,. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 141 PAGES.

WATER RESOURCES AND MANAGEMENT

1493

BURNHAM CREEK WATERSHED, POLK COUNTY, MINNESOTA.

EAST POLK SDIL AND WATER CONSERVATION DISTRICT. ST. PAUL, MINNESOTA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE OCTOBER 1981 (EPA: NOVEMBER 3, 1981). (PUR)IMPLEMENTATION OF A WATERSHED PROTECTION AND FLOOD PREVENTION PLAN WITHIN THE 104,200-ACRE BURNHAM CREEK WATERSHED IN SOUTHWESTERN POLK COUNTY, MINNESOTA IS PROPOSED. THE COUNTY LIES IN THE NORTHWESTERN PORTION OF THE STATE. THE PLAN WOULD INCLUDE LAND TREATMENT, CONSTRUCTION OF A MULTIPLE-PURPOSE FLOODWATER-RETARDING AND WILDLIFE-ENHANCEMENT STRUCTURE, AND 14.4 MILES OF CHANNEL WORK. PRIORITY LAND-TREATMENT MEASURES WOULD INVOLVE TREATMENT OF A MINIMUM OF 50 PERCENT OF THE INADEQUATELY PROTECTED CROPLAND WITHIN THE IMMEDIATE AREA OF THE CHANNEL WORK AND IN THE DRAINAGE AREA OF THE MULTIPLE-PURPOSE STRUCTURE. THIS TREATMENT WOULD COVER 5,500 ACRES. THE SECOND PRIORITY LAND-TREATMENT MEASURES WOULD INVOLVE TREATMENT OF A MINIMUM OF 50 PERCENT OF THE INADEQUATELY PROTECTED CROPLAND IN THE REMAINING SECTIONS OF THE WATERSHED. THIS TREATMENT WOULD COVER 3,200 ACRES. LAND TREATMENTS WOULD INCLUDE 5,800 ACRES OF CROP RESIDUE USE, 2,900 ACRES OF CONSERVATION TILLAGE SYSTEMS, 10 MILES OF FIELD WINDBREAKS, FIVE GRADE-STABILIZATION STRUCTURES, AND FIVE WATER CONTROL STRUCTURES. THESE MEASURES WOULD BE INSTALLED VOLUNTARILY BY LANDOWNERS AND OPERATORS. THE MULTIPLE-PURPOSE STRUCTURE, WHICH WOULD CONSIST OF AN 18-FOOT-HIGH EMBANKMENT DAM AND A 1,210-ACRE-FOOT RESERVOIR, WOULD CONTROL RUNOFF FROM 8.1 SQUARE MILES OF DRAINAGE AREA. ACQUISITION OF THREE ACRES OF LAND ON EASEMENTS AND 338 ACRES OF LAND IN FEE WOULD BE REQUIRED FOR CONSTRUCTION OF THE DAM AND RESERVOIR. A 95-ACRE WILDLIFE POOL WOULD BE ESTABLISHED WITHIN THE RESERVOIR, AND PRAIRIE PLANT SPECIES WOULD BE PLANTED FOR NESTING COVER AND WILDLIFE HABITATION ON THE REMAINING LAND. CHANNEL WORK WOULD INCLUDE MODIFICATION OF 12.5 MILES OF ARTIFICIAL DITCHES OR PREVIOUSLY MODIFIED CHANNEL AND 1.9 MILES OF WELL-DEFINED NATURAL CHANNEL. ESTIMATED COST OF THE FIVE-YEAR PROJECT IS \$3.0 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.3. (POS)THE PROJECT WOULD REDUCE EROSION ON 8,700 ACRES AND FLOOD DAMAGES ON 19,800 AC. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 102 PAGES. (NAL Call No.: 81-

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Conservation aspects of selected tillage systems on western Iowa cornfields (Watersheds).

Spomer, R.G. Hjelmfelt, A.T.; Piest, R.F. St. Joseph, Mich. (P.D. Box 410), American Society of Agricultural Engineers, 1980. Crop production with conservation in the 80's : proceedings of the American Society of Agricultural Engineers Conference on Crop Production with Conservation in the 80's, December 1-2, 1980, Palmer House, Chicago, Illinois. p. 216-227. ill. 10 ref. (NAL Call

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Conservation tillage effects on water conservation and runoff : project completion report / by James M. Steichen, Russell W. LaForce ; a research project conducted by the Kansas Water Resources Institute at Kansas State University, Manhattan, Kansas.

Steichen, James M. LaForce, Russell W. Manhattan, Kan. The Institute Springfield, Va. reproduced by National Technical Information Service 1983. "Project completion report for period October 1, 1979 to December 31, 1981. Prepared for United States Department of the Interior" ~"September 1982. ~"October 1982"--Cover ~"PB83-139865". iii, 22 leaves : ill. ; 28 cm. -. Bibliography: leaf 21. (NAL Call No.: S604.S7 1983).

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Cornstalk decomposition on a till-planted watershed (Erosion control, conservation tillage).

Alberts, E.E. AR-NC. Shrader, W.D. Madison, Wis., American Society of Agronomy. Agronomy journal. Sept/Oct 1980. v. 72 (5). p. 709-712. ill. 19 ref. (NAL Call No.: 4 AM34P).

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Effect of conservation tillage on runoff water quality: total, dissolved and algal-available phosphorus losses.

Mueller, D.H. Andraski, B.J.; Daniel, T.C.; Lowery, B. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1983. Paper presented at the 1983 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1983. (fiche no. 83-2535). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

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Evaluation of agricultural sediment control practices relative to water quality planning.

Robillard, P.O. Walter, M.F.; Hexem, R.W. Amherst, The Council. Extract: Control of sediment has become increasingly important as an element of many water quality improvement programs. An analytical method using the universal soil loss equation and linear programming to determine the cost-effectiveness of alternative sediment control practices is developed. Applications of this method to four case study farms and a hypothetical watershed are analyzed. The analyses illustrate the need for developing priorities so as to achieve

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greatest reduction in sediment losses per dollar of cost. The costs per unit of sediment reduction vary greatly with area, soil, and strategy or technique used. Journal - Northeastern Agricultural Economics Council. Apr 1980. v. 9 (1). p. 29-36. 10 ref. (NAL Call No.: HD1773.A2N6).(NAL Call No.: 81-0726D).

1499

HACKLEBARNEY WATERSHED, ADAMS AND MONTGOMERY COUNTIES, IOWA.

ADAMS COUNTY BOARD OF SUPERVISORS. DES MOINES, IOWA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JULY 1981 (EPA: JULY 22, 1981). (PUR)INSTALLATION OF LAND-TREATMENT MEASURES WITHIN THE 44,250-ACRE HACKLEBARNEY WATERSHED IN MONTGOMERY AND ADAMS COUNTIES, IOWA IS PROPOSED. A COMPLETE SYSTEM OF LAND-TREATMENT MEASURES WOULD BE INSTALLED TO PROTECT THE WATERSHED FROM EXCESSIVE EROSION. THE SYSTEM WOULD INCLUDE 225 MILES OF WATER AND SEDIMENT CONTROL BASINS, 146 GRADE STABILIZATION STRUCTURES, 100 ACRES OF GRASSED WATERWAYS OR OUTLETS, 5,805 ACRES OF CONSERVATION TILLAGE SYSTEMS, WILDLIFE HABITAT MANAGEMENT ON 300 ACRES OF UPLAND, CRITICAL AREA PLANTING ON 200 ACRES, AND 10 MILES OF DIVERSIONS. THE LAND-TREATMENT MEASURES WOULD BE INSTALLED BY INDIVIDUAL LAND USERS DURING A 15-YEAR PERIOD. ESTIMATED COST OF IMPLEMENTING PROJECT MEASURES IS \$4.8 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.2. (POS)THE PROGRAM WOULD COMPLETE PROPOSED LAND TREATMENT 151 YEARS EARLIER THAN CURRENTLY EXPECTED. APPROXIMATELY 850 ACRES OF PRIME FARMLAND WOULD BE MAINTAINED BY THE LAND-TREATMENT MEASURES. THE LAND-TREATMENT MEASURES WOULD CONTROL 100 PERCENT OF THE EXCESSIVE EROSION AND RILL EROSION AND 78 PERCENT OF THE GULLY EROSION WITHIN THE WATERSHED BY THE END OF THE INSTALLATION PERIOD. GRASSED WATERWAYS WOULD PROVIDE WILDLIFE HABITAT. APPROXIMATELY 200 ACRES OF HIGHLY ERODED OR ERODIBLE AREAS WOULD BE REVEGETATED AND MAINTAINED IN PERMANENT COVER. PHOSPHORUS AND NITROGEN LEVELS IN WATERSHED WATER WOULD BE REDUCED SIGNIFICANTLY. GRADE STABILIZATION STRUCTURES WOULD CREATE 388 ACRES OF POOD HABITAT FOR MIGRATORY WATERFOWL AND FISH. SEDIMENT DEPOSITION TO VIKING LAKE WOULD DECLINE BY 3,100 TONS PER YEAR, IMPROVING FISH HABITAT. THE 272 FARMS PARTIALLY OR ENTIRELY LOCATED WITHIN THE WATERSHED WOULD BENEFIT FROM INCREASED PRODUCTIVITY. (NEG)IMPOUNDMENTS CREATED BY GRADE STABILIZATION STRUCTURES WOULD INUNDATE 115 ACRES OF FARMLAND, AND OTHER LAND-TREATMENT MEASURES WOULD RESULT IN THE CONVERSION OF 338 ACRES OF FARMLAND TO GRASSLAND. APPROXIMATELY 35 MILES OF STREAM CHANNEL WOULD BE FLOODED BY POOLS ASSOCIATED. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 112 PAGES. (NAL Call No.: 83-0038D).(NAL Call No.: 83-0038D). (NAL Call No.: 83-0378F).

1500

LARKIN CREEK WATERSHED, LEE AND ST. FRANCIS COUNTIES, ARKANSAS.

LEE COUNTY CONSERVATION DISTRICT. LITTLE ROCK, ARKANSAS DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE NOVEMBER 1982 (EPA: NOVEMBER 23, 1982). (PUR)COMPLETION OF IMPLEMENTATION OF A LAND AND RESOURCES MANAGEMENT PLAN FOR THE 37,863-ACRE LARKIN CREEK WATERSHED OF LEE AND ST. FRANCIS COUNTIES, ARKANSAS IS PROPOSED. THE WATERSHED, WHICH ENCOMPASSES THE SMALL COMMUNITIES OF GILL, FOUR FORKS, HOLUB, AND WESTON, LIES IN THE LOWER MISSISSIPPI WATER RESOURCE REGION AND THE MISSISSIPPI/ST. FRANCIS WATER RESOURCE SUBREGION. THE RECOMMENDED SCHEME WOULD INCLUDE 50.1 MILES OF CHANNEL WORK ON A MAIN DITCH AND 16 LATERALS, LAND TREATMENT TO REDUCE EROSION AND IMPROVE ON-FARM DRAINAGE SYSTEMS, 54 WATER-CONTROL STRUCTURES, 185 GRADE STABILIZATION STRUCTURES, AND CONSERVATION EASEMENTS AND WILDLIFE MANAGEMENT PLANS ON 1,035 ACRES OF FOREST AND WETLAND. LAND TREATMENT MEASURES WOULD INCLUDE INSTALLATION OF CROP AND TILLAGE SYSTEMS ON 1,500 ACRES OF EXCESSIVELY ERODING CROPLAND, LAND GRADING ON 220 ACRES TO IMPROVE IRRIGATION AND DRAINAGE, LAND SMOOTHING ON 4,300 ACRES OF CROPLAND, CONSTRUCTION OF 183.5 MILES OF DRAINAGE FIELD DITCHES, AND IMPLEMENTATION OF CROP RESIDUE SYSTEMS, DELAYED SEEDBED PREPARATIONS, AND CROP ROTATION SYSTEMS ON 3,090 ACRES OF FUTURE CROPLAND. CHANNEL WORK WOULD INCLUDE REALIGNMENT, ENLARGEMENT, AND CLEARING AND SNAGGING. APPROXIMATELY 325 CORRUGATED METAL PIPES WOULD BE INSTALLED ALONG THE SIDES OF DITCHES TO PREVENT EROSION, AND ROCK RIPRAP WOULD BE PLACED ON STREAM BANKS AT 10 BRIDGES. SEVENTEEN WOODEN BRIDGES WOULD BE REPLACED. THE MITIGATION PLAN THAT WOULD ACCOMPANY THE PROJECT WOULD INVOLVE OBTAINING EASEMENTS ON 746 ACRES OF SEASONALLY FLOODED WOODLANDS, 91 ACRES OF WOODLAND WITH OR WITHOUT SEASONAL FLOODING, 163 ACRES OF PERMANENTLY FLOODED WETLANDS, AND 30 ACRES OF SEASONALLY FLOODED CROPLAND. ESTIMATED COST OF THE PROJECT IS \$6.8 MILLION. (POS)IMPROVEMENTS IN LAND RESOURCES RESULTING FROM FLOODWATER REDUCTION AND BETTER DRAINAGE CONDITIONS WOULD PRODUCE AVERAGE ANNUAL BENEFITS WORTH \$266,600 AND \$179,400, RESPECTIVELY. FARM INCOME AND INCOME OF RELATED SECTORS WOULD INCREASE, RESULTING IN. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 82 PAGES.

1501

LARKIN CREEK WATERSHED, LEE AND ST. FRANCIS COUNTIES, ARKANSAS.

LEE COUNTY CONSERVATION DISTRICT. LITTLE ROCK, ARKANSAS DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE NOVEMBER 1982 (EPA: NOVEMBER 23, 1982). (PUR)COMPLETION OF IMPLEMENTATION OF A LAND AND RESOURCES MANAGEMENT PLAN FOR THE 37,863-ACRE LARKIN CREEK WATERSHED OF LEE AND ST. FRANCIS COUNTIES, ARKANSAS IS PROPOSED. THE WATERSHED, WHICH ENCOMPASSES THE SMALL COMMUNITIES OF

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GILL, FOUR FORKS, HOLUB, AND WESTOR, LIES IN THE LOWER MISSISSIPPI WATER RESOURCE REGION AND THE MISSISSIPPI/ST. FRANCIS WATER RESOURCE SUBREGION. THE RECOMMENDED SCHEME WOULD INCLUDE 50.1 MILES OF CHANNEL WORK ON A MAIN DITCH AND 16 LATERALS, LAND TREATMENT TO REDUCE EROSION AND IMPROVE ON-FARM DRAINAGE SYSTEMS, 54 WATER-CONTROL STRUCTURES, 185 GRADE STABILIZATION STRUCTURES, AND CONSERVATION EASEMENTS AND WILDLIFE MANAGEMENT PLANS ON 1,035 ACRES OF FOREST AND WETLAND. LAND TREATMENT MEASURES WOULD INCLUDE INSTALLATION OF CROP AND TILLAGE SYSTEMS ON 1,500 ACRES OF EXCESSIVELY ERODING CROPLAND, LAND GRADING ON 220 ACRES TO IMPROVE IRRIGATION AND DRAINAGE, LAND SMOOTHING ON 4,300 ACRES OF CROPLAND, CONSTRUCTION OF 183.5 MILES OF DRAINAGE FIELD DITCHES, AND IMPLEMENTATION OF CROP RESIDUE SYSTEMS, DELAYED SEEDBED PREPARATIONS, AND CROP ROTATION SYSTEMS ON 3,090 ACRES OF FUTURE CROPLAND. CHANNEL WORK WOULD INCLUDE REALIGNMENT, ENLARGEMENT, AND CLEARING AND SNAGGING. APPROXIMATELY 325 CORRUGATED METAL PIPES WOULD BE INSTALLED ALONG THE SIDES OF DITCHES TO PREVENT EROSION, AND ROCK RIPRAP WOULD BE PLACED ON STREAM BANKS AT 10 BRIDGES. SEVENTEEN WOODEN BRIDGES WOULD BE REPLACED. THE MITIGATION PLAN THAT WOULD ACCOMPANY THE PROJECT WOULD INVOLVE OBTAINING EASEMENTS ON 746 ACRES OF SEASONALLY FLOODED WOODLANDS, 91 ACRES OF WOODLAND WITH OR WITHOUT SEASONAL FLOODING, 163 ACRES OF PERMANENTLY FLOODED WETLANDS, AND 30 ACRES OF SEASONALLY FLOODED CROPLAND. ESTIMATED COST OF THE PROJECT IS \$6.8 MILLION. (POS)IMPROVEMENTS IN LAND RESOURCES RESULTING FROM FLOODWATER REDUCTION AND BETTER DRAINAGE CONDITIONS WOULD PRODUCE AVERAGE ANNUAL BENEFITS WORTH \$266,600 AND \$179,400, RESPECTIVELY. FARM INCOME AND INCOME OF RELATED SECTORS WOULD INCREASE, RESULTING IN. USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 82 PAGES.

1502

LARKIN CREEK WATERSHED, LEE AND ST. FRANCIS COUNTIES, ARKANSAS.

LEE COUNTY CONSERVATION DISTRICT. LITTLE ROCK, ARKANSAS DEPARTMENT OF AGRICULTURE, FOREST SERVICE AND SOIL CONSERVATION SERVICE MAY 1983 (EPA: JUNE 2, 1983). (PUR)COMPLETION OF IMPLEMENTATION OF A LAND AND RESOURCES MANAGEMENT PLAN FOR THE 37,863-ACRE LARKIN CREEK WATERSHED OF LEE AND ST. FRANCIS COUNTIES, ARKANSAS IS PROPOSED. THE WATERSHED, WHICH ENCOMPASSES THE SMALL COMMUNITIES OF GILL, FOUR FORKS, HOLUB, AND WESTOR, LIES IN THE LOWER MISSISSIPPI WATER RESOURCE REGION AND THE MISSISSIPPI/ST. FRANCIS WATER RESOURCE SUBREGION. THE RECOMMENDED SCHEME WOULD INCLUDE 50.1 MILES OF CHANNEL WORK ON A MAIN DITCH AND 16 LATERALS, LAND TREATMENT TO REDUCE EROSION AND IMPROVE ON-FARM DRAINAGE SYSTEMS, 54 WATER-CONTROL STRUCTURES, 185 GRADE-STABILIZATION STRUCTURES, AND CONSERVATION EASEMENTS AND WILDLIFE MANAGEMENT PLANS ON 1,035 ACRES OF FOREST AND WETLAND. LAND TREATMENT MEASURES WOULD INCLUDE INSTALLATION OF CROP AND TILLAGE SYSTEMS ON

1,500 ACRES OF EXCESSIVELY ERODING CROPLAND, LAND GRADING ON 220 ACRES TO IMPROVE IRRIGATION AND DRAINAGE, LAND SMOOTHING ON 4,300 ACRES OF CROPLAND, CONSTRUCTION OF 183.5 MILES OF DRAINAGE FIELD DITCHES, AND IMPLEMENTATION OF CROP RESIDUE SYSTEMS, DELAYED SEEDBED PREPARATIONS, AND CROP ROTATION SYSTEMS ON 3,090 ACRES OF FUTURE CROPLAND. CHANNEL WORK WOULD INCLUDE REALIGNMENT, ENLARGEMENT, AND CLEARING AND SNAGGING. APPROXIMATELY 325 CORRUGATED METAL PIPES WOULD BE INSTALLED ALONG THE SIDES OF DITCHES TO PREVENT EROSION, AND ROCK RIPRAP WOULD BE PLACED ON STREAM BANKS AT 10 BRIDGES. SEVENTEEN WOODEN BRIDGES WOULD BE REPLACED. THE MITIGATION PLAN THAT WOULD ACCOMPANY THE PROJECT WOULD INVOLVE OBTAINING EASEMENTS ON 746 ACRES OF SEASONALLY FLOODED WOODLANDS, 91 ACRES OF WOODLAND WITH OR WITHOUT SEASONAL FLOODING, 163 ACRES OF PERMANENTLY FLOODED WETLANDS, AND 30 ACRES OF SEASONALLY FLOODED CROPLAND. ESTIMATED COST OF THE PROJECT IS \$6.8 MILLION. (POS)IMPROVEMENTS IN LAND RESOURCES RESULTING FROM FLOODWATER REDUCTION AND BETTER DRAINAGE CONDITIONS WOULD PRODUCE AVERAGE ANNUAL BENEFITS WORTH \$266,600 AND \$179,400, RESPECTIVELY. FARM INCOME AND INCOME OF RELATED SECTORS WOULD INCREASE, RESULTING IN. USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 127 PAGES.(NAL Call No.: 81-0725F).(NAL Call No.: 81-03100).

1503

MIDDLE FORK OF ANDERSON RIVER WATERSHED, INDIANA.

CRAWFORD COUNTY SOIL AND WATER CONSERVATION DISTRICT. INDIANAPOLIS, INDIANA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JULY 1981 (EPA: JULY 22, 1981). (PUR)IMPLEMENTATION OF LAND-TREATMENT MEASURES, CONSTRUCTION OF TWO FLOODWATER-RETARDING STRUCTURES, AND MODIFICATION OR IMPROVEMENT OF 15.5 MILES OF CHANNELS WITHIN THE 69,400-ACRE WATERSHED OF THE MIDDLE FORK OF THE ANDERSON RIVER IN PERRY AND CRAWFORD COUNTIES, INDIANA ARE PROPOSED. LAND-TREATMENT MEASURES WOULD BE IMPLEMENTED ON 4,258 ACRES OF CROPLAND, 2,499 ACRES OF PASTURELAND, 9,063 ACRES OF FOREST, AND 728 ACRES OF OTHER LAND. TREATMENT MEASURES WOULD INCLUDE CONSERVATION CROPPING SYSTEMS, CROP RESIDUE MANAGEMENT, CRITICAL AREA PLANTING PROGRAMS, CONSTRUCTION OF DRAINAGE DITCHES AND DRAINAGE MAINS AND LATERALS, PROVISION OF GRASSED WATERWAYS, CONSTRUCTION OF GRADE STABILIZATION STRUCTURES, LIVESTOCK EXCLUSION, CONSERVATION TILLAGE SYSTEMS, PASTURE AND HAYLAND MANAGEMENT AND PLANTING PROGRAMS, CONSTRUCTION OF PONDS AND TERRACES, CONSTRUCTION OF SUBSURFACE DRAINS, TREE PLANTING PROGRAMS, UPLAND HABITAT MANAGEMENT, AND WOODLAND IMPROVEMENT. CHANNEL WORK WOULD CONSIST OF 10.3 MILES OF ONE-SIDE EXCAVATION, 2.3 MILES OF CLEARING AND SHOAL REMOVAL, AND 2.9 MILES OF DEBRIS AND SHOAL REMOVAL. THE FLOODWATER-RETARDING STRUCTURES WOULD BE EARTHFILL EMBANKMENTS WITH REINFORCED CONCRETE SPILLWAYS. THE STRUCTURES WOULD CONTROL RUNOFF FROM 1.29 SQUARE MILES OF DRAINAGE AREA. ASSOCIATED SEDIMENT POOLS WOULD CREATE A TOTAL

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OF 6.3 ACRES OF WATER, AND THE FLOODWATER POOLS WOULD COVER 29.3 ACRES. ESTIMATED COST OF THE PROJECT IS \$5.99 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.3. (POS)THE PROJECT WOULD PROVIDE FLOOD PROTECTION FOR AGRICULTURAL LANDS, WHILE ELIMINATING SWAMPING PROBLEMS ASSOCIATED WITH LONG-DURATION HIGH FLOWS ALONG SEVERAL CHANNEL REACHES. LAND-TREATMENT MEASURES WOULD INCREASE PRODUCTION ON INDIVIDUAL FARMS AND ALLOW FOR MORE INTENSIVE PRACTICES IN OTHER LAND USE CATEGORIES. EROSION CONTROL MEASURES WOULD DECREASE THE AMOUNT OF SEDIMENT CARRIED OUT OF THE WATERSHED EACH YEAR BY 2,500 TONS. MONETARILY, ANNUAL BENEFITS WOULD AMOUNT TO \$219,720 FOR. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 89 PAGES.

1504

MIDDLE FORK OF ANDERSON RIVER WATERSHED, INDIANA.

CRAWFORD COUNTY SOIL AND WATER CONSERVATION DISTRICT. INDIANAPOLIS, INDIANA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JANUARY 1981 (EPA: FEBRUARY 10, 1981). (PUR)IMPLEMENTATION OF LAND-TREATMENT MEASURES, CONSTRUCTION OF TWO FLOODWATER-RETARDING STRUCTURES, AND MODIFICATION OR IMPROVEMENT OF 15.5 MILES OF CHANNELS WITHIN THE 69,400-ACRE WATERSHED OF THE MIDDLE FORK OF THE ANDERSON RIVER IN PERRY AND CRAWFORD COUNTIES, INDIANA ARE PROPOSED. LAND-TREATMENT MEASURES WOULD BE IMPLEMENTED ON 4,258 ACRES OF CROPLAND, 2,499 ACRES OF PASTURELAND, 9,063 ACRES OF FOREST, AND 728 ACRES OF OTHER LAND. TREATMENT MEASURES WOULD INCLUDE CONSERVATION CROPPING SYSTEMS, CROP RESIDUE MANAGEMENT, CRITICAL AREA PLANTING PROGRAMS, CONSTRUCTION OF DRAINFIELD DITCHES AND DRAINAGE MAINS AND LATERALS, PROVISION OF GRASSED WATERWAYS, CONSTRUCTION OF GRADE STABILIZATION STRUCTURES, LIVESTOCK EXCLUSION, CONSERVATION TILLAGE SYSTEMS, PASTURE AND HAYLAND MANAGEMENT AND PLANTING PROGRAMS, CONSTRUCTION OF PONDS AND TERRACES, CONSTRUCTION OF SUBSURFACE DRAINS, TREE PLANTING PROGRAMS, UPLAND HABITAT MANAGEMENT, AND WOODLAND IMPROVEMENT. CHANNEL WORK WOULD CONSIST OF 10.3 MILES OF ONE-SIDE EXCAVATION, 2.3 MILES OF CLEARING AND SHOAL REMOVAL, AND 2.9 MILES OF DEBRIS AND SHOAL REMOVAL. THE FLOODWATER-RETARDING STRUCTURES WOULD BE EARTHFILL EMBANKMENTS WITH REINFORCED CONCRETE SPILLWAYS. THE STRUCTURES WOULD CONTROL RUNOFF FROM 1.29 SQUARE MILES OF DRAINAGE AREA. ASSOCIATED SEDIMENT POOLS WOULD CREATE A TOTAL OF 6.3 ACRES OF WATER AND THE FLOODWATER POOLS WOULD COVER 29.3 ACRES. ESTIMATED COST OF THE PROJECT IS \$5.99 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.3. (POS)THE PROJECT WOULD PROVIDE FLOOD PROTECTION FOR AGRICULTURAL LANDS, WHILE ELIMINATING SWAMPING PROBLEMS ASSOCIATED WITH LONG-DURATION HIGH FLOWS ALONG SEVERAL CHANNEL REACHES. LAND-TREATMENT MEASURES WOULD INCREASE PRODUCTION ON INDIVIDUAL FARMS AND ALLOW FOR MORE INTENSIVE PRACTICES IN OTHER LAND USE CATEGORIES. EROSION CONTROL MEASURES WOULD DECREASE THE AMOUNT OF SEDIMENT CARRIED OUT OF THE WATERSHED EACH YEAR BY 2,500 TONS. MONETARILY, ANNUAL BENEFITS

WOULD AMOUNT TO \$219,720 FOR. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 46 PAGES. .: 80-08700).

1505

RATTLESNAKE CREEK WATERSHED, OHIO.

DEPARTMENT OF AGRICULTURE~ SOIL CONSERVATION SERVICE. LONDON, OHIO DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE APRIL 1981 (EPA: APRIL 6, 1981). (PUR)IMPLEMENTATION OF LAND-TREATMENT MEASURES AND MODIFICATION OF STREAM CHANNELS WITHIN THE 126-SQUARE-MILE RATTLESNAKE CREEK WATERSHED IN NORTHWESTERN CLINTON COUNTY, WESTERN FAYETTE COUNTY, EASTERN GREENE COUNTY, AND SOUTHERN MADISON COUNTY, OHIO ARE PROPOSED. LAND-TREATMENT MEASURES TO BE APPLIED TO 19,000 ACRES OF CROPLAND WOULD INCLUDE CONSERVATION TILLAGE, GRASSING OF WATERWAYS, INSTALLATION OF SUBSURFACE DRAINAGE PROVISIONS, AND INSTALLATION OF WATER-CONTROL STRUCTURES. OTHER LAND-TREATMENT MEASURES INCLUDE IMPLEMENTATION OF PASTURE-MANAGEMENT PRACTICES ON 900 ACRES, TIMBER-MANAGEMENT PRACTICES ON 400 ACRES, AND MISCELLANEOUS MANAGEMENT PRACTICES ON AN ADDITIONAL 850 ACRES. STRUCTURAL MEASURES WOULD INCLUDE CHANNEL MODIFICATION ALONG 57 MILES OF STREAM, INCLUDING 8.8 MILES OF OBSTRUCTION REMOVAL, 1.6 MILES OF FLUSH-CUT CLEARING, AND 46.6 MILES OF CHANNEL DEEPENING OR WIDENING. ALL CHANNEL MODIFICATION, WHICH WOULD TAKE PLACE EXCLUSIVELY IN AGRICULTURAL AREAS, WOULD BE DONE FROM ONE SIDE OF THE CHANNEL, EXCEPT ALONG CHANNELS IN WHICH REALIGNMENT WAS NECESSARY. TO MITIGATE DISTURBANCES OF WOODY VEGETATION DUE TO CHANNEL WORK, SHRUBS WOULD BE PLANTED AT A RATE OF ABOUT 1,200 PLANTS PER ACRE AND TREES WOULD BE PLANTED AT A RATE OF 436 SEEDLINGS PER ACRE. ESTIMATED COST OF THE PROJECT IS \$6.2 MILLION, AND THE BENEFIT-COST RATIO IS ESTIMATED AT 1.1. (POS)CHANNEL MODIFICATIONS WOULD REDUCE FLOODING FROM 100-YEAR STORMS ON 4,604 ACRES OF FARMLAND AND PROTECT 72 RESIDENTIAL AND COMMERCIAL STRUCTURES FROM THE 100-YEAR EVENT. ONCE THE PROJECT WAS COMPLETED, EROSION AND SEDIMENTATION PROBLEMS ON 82 PERCENT OF THE WATERSHED CROPLAND AND OVER 90 PERCENT OF THE OTHER LAND IN THE WATERSHED WOULD BE ALLEVIATED. (NEG)CHANNEL MODIFICATION AND LAND TREATMENT WOULD ALTER 109 ACRES OF CROPLAND AND PASTURE AND NINE ACRES OF FOREST AND BRUHLAND. (LEG)WATERSHED PROTECTION AND FLOOD PREVENTION ACT OF 1954 (16 U.S.C. 1001 ET SEQ.). USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 127 PAGES. (NAL Call No.: 81-0470F).

1506

RATTLESNAKE CREEK WATERSHED, OHIO.

DEPARTMENT OF AGRICULTURE~ SOIL CONSERVATION SERVICE. LONDON, OHIO DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JULY 1980 (EPA: JULY 25, 1980). (PUR)IMPLEMENTATION OF LAND-TREATMENT MEASURES AND MODIFICATION OF

(WATER RESOURCES AND MANAGEMENT)

STREAM CHANNELS WITHIN THE 126-SQUARE-MILE RATTLESNAKE CREEK WATERSHED IN NORTHWESTERN CLINTON COUNTY, WESTERN FAYETTE COUNTY, EASTERN GREENE COUNTY, AND SOUTHERN MADISON COUNTY, OHIO ARE PROPOSED. LAND-TREATMENT MEASURES TO BE APPLIED TO 19,000 ACRES OF CROPLAND WOULD INCLUDE CONSERVATION TILLAGE, GRASSING OF WATERWAYS, INSTALLATION OF SUBSURFACE DRAINAGE PROVISIONS, AND INSTALLATION OF WATER-CONTROL STRUCTURES. OTHER LAND-TREATMENT MEASURES INCLUDE IMPLEMENTATION OF PASTURE-MANAGEMENT PRACTICES ON 900 ACRES, TIMBER MANAGEMENT PRACTICES ON 400 ACRES, AND MISCELLANEOUS MANAGEMENT PRACTICES ON AN ADDITIONAL 850 ACRES. STRUCTURAL MEASURES WOULD INCLUDE CHANNEL MODIFICATION ALONG 57 MILES OF STREAM, INCLUDING 8.8 MILES OF OBSTRUCTION REMOVAL, 1.6 MILES OF FLUSH-CUT CLEARING, AND 46.6 MILES OF CHANNEL DEEPENING OR WIDENING. ALL CHANNEL MODIFICATION, WHICH WOULD TAKE PLACE EXCLUSIVELY IN AGRICULTURAL AREAS, WOULD BE DONE FROM ONE SIDE OF THE CHANNEL, EXCEPT ALONG CHANNELS IN WHICH REALIGNMENT WAS NECESSARY. TO MITIGATE DISTURBANCES OF WOODY VEGETATION DUE TO CHANNEL WORK, SHRUBS WOULD BE PLANTED AT A RATE OF ABOUT 1,200 PLANTS PER ACRE AND TREES WOULD BE PLANTED AT A RATE OF 436 SEEDLINGS PER ACRE. ESTIMATED COSTS OF THE PROJECT ARE \$6.2 MILLION. POSITIVE IMPACTS: CHANNEL MODIFICATIONS WOULD REDUCE FLOODING FROM 100-YEAR STORMS BY 4,604 ACRES, PROTECTING 72 RESIDENTIAL AND COMMERCIAL STRUCTURES FROM THE 100-YEAR EVENT. IN ADDITION, THE PROJECT WOULD CREATE 70 ACRES OF WATER SURFACE; PROVIDE 178 ACRES OF WATERFOWL AND AQUATIC HABITAT; ESTABLISH 371 ACRES OF GRASSES AND LEGUMES; REDUCE SOIL LOSSES ON 19,200 ACRES OF CROPLAND, 900 ACRES OF PASTURE, 225 ACRES OF WILDLIFE HABITAT, AND 631 ACRES OF OTHER LAND; REDUCE STREAMBANK EROSION BY 10 PERCENT; AND CREATE 114 JOBS. NEGATIVE IMPACTS: CHANNEL MODIFICATION AND LAND TREATMENT WOULD ALTER 178 ACRES OF CROPLAND AND PASTURE AND 47 ACRES OF FOREST AND BRUSHLAND. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 112 PAGES. (NAL Call No

1507

Shallow groundwater quality beneath an intensive multiple-cropping system using center pivot irrigation.
Hubbard, R.K. JEVQAA. Asmussen, L.E.; Allison, H.D. Madison : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1984. v. 13 (1). p. 156-161. Includes references. (NAL Call No.: QH540.J6).

1508

Soil and water conservation with minimum tillage in the semiarid Central Great Plains (USA).
Smika, D.E. Minneapolis, Minn. : Published for the Congress by Burgess Pub., c1981. Proceedings of symposia : IX International Congress of Plant Protection, Washington, D.C., U.S.A., August 5-11, 1979 / editor, Thor

Kommedahl. p. 70-72. Includes 5 ref. (NAL Call No.: SB951.I5 1979).

1509

Soil and water management in soybean production systems (Conservation tillage, erosion control, double-cropping, no-till, strip-cropping).
Buntley, G.J. Atlanta, Potash & Phosphate Institute. Better crops with plant food. Summer 1982. v. 66. p. 3-5. (NAL Call No.: 6 B46). (NAL Call No.: 81-0311D). (NAL Call No.: 82-0271F).

1510

UPPER BIG BLUE RIVER WATERSHED, HENRY AND RUSH COUNTIES, INDIANA.
BIG BLUE RIVER CONSERVANCY DISTRICT. INDIANAPOLIS, INDIANA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JANUARY 1981 (EPA: FEBRUARY 19, 1981). (PUR)CONSTRUCTION OF TWO FLOODWATER-RETARDING STRUCTURES, IMPLEMENTATION OF 24.5 MILES OF CHANNEL WORK, AND INSTALLATION OF CONSERVATION LAND-TREATMENT MEASURES ON 25,000 ACRES OF LAND WITHIN THE 124,000-ACRE UPPER BIG BLUE RIVER WATERSHED IN HENRY AND RUSH COUNTIES, INDIANA ARE PROPOSED TO PROVIDE FLOOD CONTROL AND WATERSHED PROTECTION. LAND-TREATMENT MEASURES WOULD BE APPLIED TO 9,100 ACRES OF CROPLAND, 7,630 ACRES OF PASTURELAND, 5,275 ACRES OF FOREST, AND 3,000 ACRES OF OTHER LAND. CONSERVATION PRACTICES TO BE APPLIED WOULD INCLUDE CONSERVATION CROPPING SYSTEMS, CONTOUR FARMING, TERRACES, DIVERSIONS, GRASSED WATERWAYS, MINIMUM TILLAGE, CROP RESIDUE USE, CRITICAL AREA PLANTING, GRADE STABILIZATION STRUCTURES, SUBSURFACE DRAINS, DRAINAGE FIELD DITCHES, OPEN CHANNELS, DRAINAGE MAINS OR LATERALS, WILDLIFE HABITAT MANAGEMENT, PASTURE AND HAYLAND MANAGEMENT, LIVESTOCK EXCLUSION PRACTICES, EROSION CONTROL PRACTICES, TIMBER AND RECREATIONAL FOREST MANAGEMENT, AND STREAMBANK IMPROVEMENT. CHANNEL WORK WOULD INCLUDE DEEPENING AND WIDENING CHANNELS AS WELL AS CLEARANCE AND DEBRIS REMOVAL FOR DRAINAGE AND FLOOD CONTROL PURPOSES. CONSTRUCTION OF THE EARTHFILL FLOODWATER-RETARDING STRUCTURES WOULD REQUIRE ACQUISITION OF EASEMENTS ON A TOTAL OF 763 ACRES OF LAND. ONE STRUCTURE WOULD IMPOUND A PERMANENT POOL OF WATER COVERING 53 ACRES, WHILE THE OTHER WOULD HAVE NO PERMANENT POOL. BOTH STRUCTURES WOULD FEATURE PROVISIONS FOR SEDIMENT STORAGE AS WELL AS FLOOD CONTROL. THE TOTAL INSTALLATION COST OF THE PROJECT MEASURES IS ESTIMATED AT \$21.9 MILLION. (POS)STRUCTURAL MEASURES WOULD PROTECT 530 ACRES FROM A 2-YEAR FREQUENCY FLOOD, DECREASE AGRICULTURAL LOSSES DUE TO FLOODING BY 62 PERCENT, CREATE 53 ACRES OF PONDED WATERS INCLUDING 8 ACRES OF HIGH-QUALITY WETLAND, DECREASE THE AMOUNT OF SEDIMENT LEAVING THE WATERSHED BY 30,400 TONS PER YEAR, AND ELIMINATE HAZARDS TO LIFE CAUSED BY FLOODING. LAND-TREATMENT MEASURES WOULD PROVIDE ADEQUATE DRAINAGE OUTLETS FOR 735 ACRES OF CROPLAND WIT. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 68 PAGES.

(WATER RESOURCES AND MANAGEMENT)

1511

UPPER BIG BLUE RIVER WATERSHED, HENRY AND RUSH COUNTIES, INDIANA.

BIG BLUE RIVER CONSERVANCY DISTRICT. INDIANAPOLIS, INDIANA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE NOVEMBER 1981 (EPA: FEBRUARY 24, 1982). (PUR)CONSTRUCTION OF TWO FLOODWATER-RETARDING STRUCTURES, IMPLEMENTATION OF 24.5 MILES OF CHANNEL WORK, AND INSTALLATION OF CONSERVATION LAND-TREATMENT MEASURES ON 22,380 ACRES OF LAND WITHIN THE 124,000-ACRE UPPER BIG BLUE RIVER WATERSHED IN HENRY AND RUSH COUNTIES, INDIANA ARE PROPOSED TO PROVIDE FLOOD CONTROL AND WATERSHED PROTECTION. LAND-TREATMENT MEASURES WOULD BE APPLIED TO 9,100 ACRES OF CROPLAND, 7,630 ACRES OF PASTURELAND, 2,650 ACRES OF FOREST, AND 3,000 ACRES OF OTHER LAND. CONSERVATION PRACTICES TO BE APPLIED WOULD INCLUDE CONSERVATION CROPPING SYSTEMS, CONTOUR FARMING, TERRACES, DIVERSIONS, GRASSED WATERWAYS, MINIMUM TILLAGE, CROP RESIDUE USE, CRITICAL AREA PLANTING, GRADE STABILIZATION STRUCTURES, SUBSURFACE DRAINS, DRAINAGE FIELD DITCHES, OPEN CHANNELS, DRAINAGE MAINS OR LATERALS, WILDLIFE HABITAT MANAGEMENT, PASTURE AND HAYLAND MANAGEMENT, LIVESTOCK EXCLUSION PRACTICES, EROSION CONTROL PRACTICES, TIMBER AND RECREATIONAL FOREST MANAGEMENT, AND STREAMBANK IMPROVEMENT. CHANNEL WORK WOULD INCLUDE DEEPENING AND WIDENING CHANNELS AS WELL AS CLEARANCE AND DEBRIS REMOVAL FOR DRAINAGE AND FLOOD CONTROL PURPOSES. CONSTRUCTION OF THE EARTHFILL FLOODWATER-RETARDING STRUCTURES WOULD REQUIRE ACQUISITION OF EASEMENTS ON A TOTAL OF 763 ACRES OF LAND. ONE STRUCTURE WOULD IMPOUND A PERMANENT POOL OF WATER COVERING 53 ACRES, WHILE THE OTHER WOULD HAVE NO PERMANENT POOL. BOTH STRUCTURES WOULD FEATURE PROVISIONS FOR SEDIMENT STORAGE AS WELL AS FLOOD CONTROL. THE TOTAL INSTALLATION COST OF THE PROJECT MEASURES IS ESTIMATED AT \$21.9 MILLION. (POS)STRUCTURAL MEASURES WOULD PROTECT 530 ACRES FROM A 2-YEAR FREQUENCY FLOOD, DECREASE AGRICULTURAL LOSSES DUE TO FLOODING BY 62 PERCENT, CREATE 53 ACRES OF PONDED WATERS INCLUDING 8 ACRES OF HIGH-QUALITY WETLAND, DECREASE THE AMOUNT OF SEDIMENT LEAVING THE WATERSHED BY 30,400 TONS PER YEAR, AND ELIMINATE HAZAROUS TO LIFE CAUSED BY FLOODING. LAND-TREATMENT MEASURES WOULD PROVIDE ADEQUATE DRAINAGE OUTLETS FOR 735 ACRES OF CROPLAND WIT. USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 163 PAGES. L Call No.: 81-08380). (NAL Call No.: 82-0612F).

1513

UPPER CHESTER RIVER WATERSHED PLAN, MARYLAND AND DELAWARE.

KENT COUNTY COMMISSIONERS. AND DOVER, DELAWARE DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, COLLEGE PARK, MARYLAND JULY 1982 (EPA: JULY 16, 1982). (PUR)CHANNEL EXCAVATION AND LAND TREATMENT WITHIN THE 90,500-ACRE UPPER CHESTER RIVER WATERSHED IN KENT AND QUEEN ANNE'S COUNTIES, MARYLAND, AND IN KENT AND NEW CASTLE COUNTIES, DELAWARE ARE PROPOSED TO SOLVE AGRICULTURAL FLOODING AND DRAINAGE PROBLEMS.

THE PROJECT WOULD INVOLVE PROVISION OF 18.5 PERSON-YEARS OF TECHNICAL ASSISTANCE TO ACCELERATE THE PLANNING AND APPLICATION OF LAND-TREATMENT MEASURES AND INSTALLATION OF 97 MILES OF CHANNEL WORK OVER A SEVEN-YEAR PERIOD. CHANNEL WORK WOULD INVOLVE CLEARING AND SHAPING OR ENLARGING 17.5 MILES OF PERENNIAL STREAMS, 67.5 MILES OF EPHEMERAL STREAMS, AND 12 MILES OF INTERMITTENT STREAMS. THE LAND-TREATMENT COMPONENT OF THE PROJECT WOULD INCLUDE 302,000 FEET OF HEDGEROW PLANTING, 2.0 MILLION FEET OF FIELD DITCH EXCAVATION, AND MANAGEMENT OF 1,860 ACRES OF WETLAND HABITAT AND 5,500 ACRES OF FOREST. THE PROGRAM WOULD TREAT 14,600 ACRES OF CROPLAND USING REDUCED TILLAGE SYSTEMS AND COVER CROPS. ESTIMATED COST OF THE PROJECT IS \$5.1 MILLION, AND THE ESTIMATED BENEFIT-COST RATIO IS 1.9. (POS)CHANNEL WORK AND LAND-TREATMENT MEASURES WOULD REDUCE FLOOD DAMAGES AND IMPROVE DRAINAGE ON 9,400 ACRES OF WET CROPLAND AND 5,200 ACRES OF INTERDEPENDENT NONWET CROPLAND. REDUCE EROSION ON AND SEDIMENT PRODUCED BY 14,600 ACRES OF CROPLAND, IMPROVE MANAGEMENT ON 3,700 ACRES OF FOREST LAND, AND IMPROVE WILDLIFE HABITAT WITHIN THE WATERSHED. THE AMOUNT OF PRIME FARMLAND WOULD INCREASE BY 9,400 ACRES. OF THE 250 FARM UNITS WITHIN THE WATERSHED, 120 WOULD BENEFIT FROM LAND-TREATMENT MEASURES AND 100 WOULD BENEFIT FROM STRUCTURAL MEASURES. (NEG)APPROXIMATELY 525 ACRES OF WOODED FLOODPLAIN AND ASSOCIATED WILDLIFE HABITAT WOULD BE CHANGED TO OPEN CHANNEL AND HERBACEOUS GROWTH AND BRUSH. PROJECT ACTIVITIES WOULD RESULT IN A NET LOSS OF 118 ACRES OF WETLAND. APPROXIMATELY 9.8 MILES OF EXISTING HEDGEROW WOULD BE REPLACED BY HERBACEOUS STRIPS, AND 75 ACRES OF CROPLAND WOULD BE CHANGED TO HERBACEOUS GROWTH AND BRUSH. EXCAVATION OF STREAMS WOULD DISRUPT. USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 221 PAGES.

1512

UPPER CHESTER RIVER WATERSHED PLAN, MARYLAND AND DELAWARE.

KENT COUNTY COMMISSIONERS. COLLEGE PARK, MARYLAND DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JULY 1981 (EPA: AUGUST 3, 1981). (PUR)CHANNEL EXCAVATION AND LAND TREATMENT WITHIN THE 90,500-ACRE UPPER CHESTER RIVER WATERSHED IN KENT AND QUEEN ANNE'S COUNTIES, MARYLAND AND IN KENT AND NEW CASTLE COUNTIES, DELAWARE ARE PROPOSED TO SOLVE AGRICULTURAL FLOODING AND DRAINAGE PROBLEMS. THE PROJECT WOULD INVOLVE PROVISION OF 18.5 PERSON-YEARS OF TECHNICAL ASSISTANCE TO ACCELERATE THE PLANNING AND APPLICATION OF LAND-TREATMENT MEASURES AND INSTALLATION OF 97 MILES OF CHANNEL WORK OVER A SEVEN-YEAR PERIOD. CHANNEL WORK WOULD INVOLVE CLEARING AND SNAGGING AND ENLARGING 17.5 MILES OF PERENNIAL STREAMS, 67.5 MILES OF EPHEMERAL STREAMS, AND 12 MILES OF INTERMITTENT STREAMS. THE LAND-TREATMENT COMPONENT OF THE PROJECT WOULD INCLUDE 102,000 FEET OF HEDGEROW PLANTING, 2.0 MILLION FEET OF FIELD DITCH EXCAVATION, AND MANAGEMENT OF 1,860 ACRES OF WETLAND HABITAT AND 55,000 ACRES OF FOREST. THE ONGOING PROGRAM

WOULD TREAT 14,600 ACRES OF CROPLAND USING REDUCED TILLAGE SYSTEMS AND COVER CROPS. ESTIMATED COSTS OF CHANNEL WORK AND LAND-TREATMENT MEASURES ARE \$2.9 MILLION AND \$2.3 MILLION RESPECTIVELY, AND THE ESTIMATED BENEFIT-COST RATIO IS 1.8. (POS)CHANNEL WORK AND LAND-TREATMENT MEASURES WOULD REDUCE FLOOD DAMAGES AND IMPROVE DRAINAGE ON 9,400 ACRES OF WET CROPLAND AND 5,200 ACRES OF INTERDEPENDENT NONWET CROPLAND, REDUCE EROSION ON AND SEDIMENT PRODUCED BY 14,600 ACRES OF CROPLAND, IMPROVE MANAGEMENT ON 3,700 ACRES OF FOREST LAND, AND IMPROVE WILDLIFE HABITAT WITHIN THE WATERSHED. AN ESTIMATED 16,518 ACRES OF CROPLANDS WOULD BENEFIT FROM IMPROVED MANAGEMENT. THE AMOUNT OF FORESTED LAND WITHIN THE WATERSHED WOULD INCREASE FROM 26,115 ACRES TO 16,640 ACRES, AND THE AMOUNT OF PRIME FARMLAND WOULD INCREASE FROM 32,050 ACRES TO 41,450 ACRES. OF THE 250 FARM UNITS WITHIN THE WATERSHED, 120 WOULD BENEFIT FROM LAND-TREATMENT MEASURES AND 100 WOULD BENEFIT FROM STRUCTURAL MEASURES. (NEG)APPROXIMATELY 525 ACRES OF WOODED FLOODPLAIN AND ASSOCIATED WILDLIFE HABITAT WOULD BE CHANGED TO HERBACEOUS GROWTH AND BRUSH. PROJECT AC. USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 241 PAGES. (NA

1514

Use and cost of soil conservation and water quality practices in the Southeast.

Russell, J.R. Christensen, L.A. Washington, D.C. : The Service. Extract: The most frequently used conservation practices in the Southeast are terracing, sod waterways, permanent vegetative cover crops, and conservation tillage. Costs of terracing per acre ranged from \$125 in Kentucky to \$17 in South Carolina. Sod waterway costs ranged from \$1,854 in Kentucky to \$858 in Tennessee. Permanent vegetative cover costs ranged from a high of \$121 in South Carolina to a low of \$73 in North Carolina. Conservation tillage costs ranged from a high of \$48 per acre in Florida to a low of \$9 in Tennessee. ERS staff report United States Dept. of Agriculture, Economic Research Service. Feb 1984. Available from NTIS, order no. PB84-161173. Feb 1984. (AGES831928). 19 p. Includes 16 references. (NAL Call No.: 916762(AGE)).

1515

Water-saving technique finally accepted.

CRSOA. Madison, Wis. : American Society of Agronomy. Crops and soils magazine. Nov 1984. v. 37 (2). p. 27. ill. (NAL Call No.: DNAL 6 W55).GES. (NAL Call No.: 83-04370).

1516

WATERSHED PLAN FOR ENGLISH COULEE WATERSHED, GRAND FORKS COUNTY, NORTH DAKOTA.

CITY OF GRAND FORKS, NORTH DAKOTA. BISMARCK, NORTH DAKOTA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JANUARY 1983 (EPA: JUNE 23, 1983). (PUR)IMPLEMENTATION OF A FLOOD CONTROL AND LAND TREATMENT PLAN FOR THE 73,664-ACRE ENGLISH COULEE WATERSHED IN GRAND FORKS COUNTY OF EASTERN NORTH DAKOTA IS PROPOSED. THE PREFERRED PLAN WOULD INVOLVE PROVISION OF ACCELERATED TECHNICAL ASSISTANCE IN INSTALLATION OF RESOURCE MANAGEMENT SYSTEMS ON 14,260 ACRES OF CROPLAND AND 1,760 ACRES OF RANGE, PASTURE, AND HAYLAND; CONSTRUCTION OF A ROLLED EARTHFILL DAM WITH RESERVOIR STORAGE RESERVED FOR SEDIMENT AND FLOODWATER; CONSTRUCTION OF A DIVERSION STRUCTURE TO CONVEY OUTFLOWS FROM THE FLOODWATER-RETARDING DAM AND THE RUNOFF FROM 8.7 MILES OF UNCONTROLLED DRAINAGE AREA; AND DEVELOPMENT OF THREE MILES OF FLOODWAY TO JOIN TWO EXISTING FLOODWAYS THAT HAVE A COMBINED LENGTH OF 10.5 MILES. LAND TREATMENT ACTIONS WOULD INCLUDE CONSERVATION CROPPING SYSTEMS ON 14,260 ACRES, 139,500 LINEAR FEET OF FIELD WINDBREAKS, CONSERVATION TILLAGE SYSTEMS ON 8,130 ACRES, PERMANENT HAYLAND PLANTING ON 440 ACRES, PLANTING OF GRASSES AND LEGUMES IN ROTATION ON 560 ACRES, CROP RESIDUE USE ON 14,260 ACRES, 900 LINEAR FEET OF DIVERSIONS, PLANTING OF GRASSES ON 9 ACRES WITHIN WATERWAYS, ENFORCEMENT OF PROPER GRAZING USE ON 1,430 ACRES OF GRASSLAND, PASTURE AND HAYLAND MANAGEMENT PRACTICES ON 160 ACRES, RANGE RESEEDING ON 80 ACRES, 9 LIVESTOCK WATERING PONDS, 22,500 LINEAR FEET OF CROSS FENCING, WILDLIFE MANAGEMENT ON 190 ACRES OF WETLAND, AND WILDLIFE MANAGEMENT PRACTICES ON 360 ACRES OF UPLAND. THE FLOODWATER-RETARDING STRUCTURE, WHICH WOULD CONTROL DRAINAGE ON 57.1 SQUARE MILES (OR NEARLY 50 PERCENT) OF THE WATERSHED, WOULD EXTEND 6.5 MILES AND HAVE AN AVERAGE HEIGHT OF 8 FEET; THE STRUCTURE WOULD REQUIRE 500,000 CUBIC YARDS OF FILL. THE FLOODWAY WOULD COMPLETE A 13.5-MILE SYSTEM THAT WOULD CONVEY DIVERTED WATER TO THE RED RIVER OF THE NORTH. COST OF STRUCTURAL MEASURES IS ESTIMATED AT \$3.5 MILLION, AND TECHNICAL ASSISTANCE COSTS ARE ESTIMATED AT \$34,000. ESTIMATED BENEFIT-COST RATIO FOR THE PROJECT IS 1.13. (POS)BOTH URBAN AND RURAL PROPERTIES W/ USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 O, ARLINGTON, VA 22209. 113 PA

1517

WHEELING CREEK WATERSHED, GREENE AND WASHINGTON COUNTIES, PENNSYLVANIA AND OHIO AND MARSHALL COUNTIES, WEST VIRGINIA.

DEPARTMENT OF AGRICULTURE~ SOIL CONSERVATION SERVICE. HARRISBURG, PENNSYLVANIA DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE JULY 1979 (EPA: AUGUST 6, 1979). (PUR)IMPLEMENTATION OF LAND-TREATMENT AND STRUCTURAL MEASURES FOR WATERSHED PROTECTION AND FLOOD PREVENTION IN THE WHEELING CREEK WATERSHED OF THE OHIO RIVER BASIN, GREENE AND WASHINGTON COUNTIES, PENNSYLVANIA, AND OHIO AND MARSHALL COUNTIES, WEST VIRGINIA IS PROPOSED. LAND-TREATMENT

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MEASURES WOULD INVOLVE 38,390 ACRES AND INCLUDE CONSERVATION CROPPING SYSTEMS, CONTOUR STRIP-CROPPING, DIVERSIONS, SUBSURFACE DRAINS, GRASSLAND PLANTINGS, GRASSED WATERWAYS, MINIMUM TILLAGE CULTIVATION, AND WILDLIFE. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 70 ARLINGTON, VA 22209. 74 PAGES. (NAL Call No.: 79-12470).

DRAINAGE AND IRRIGATION

1518

Conservation tillage and irrigation for (the Southeastern) Coastal Plain soils: a progress report.

Camp, C.R. Christenbury, G.D.; Doty, C.W. St. Joseph, Mich. (P.O. Box 410), American Society of Agricultural Engineers, 1980. Crop production with conservation in the 80's : proceedings of the American Society of Agricultural Engineers Conference on Crop Production with Conservation in the 80's, December 1-2, 1980, Palmer House, Chicago, Illinois. p. 111-120. ill. 11 ref. (NAL Call No.: S494.5.P75C7).

1519

Conservation tillage under reduced pressure sprinkler irrigation.

DeBoer, D.W. Beck, D.L. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1983. Paper presented at the 1983 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1983. (fiche no. 83-1526). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1520

Efficient water use: conservation of soil moisture with no-tillage.

Morse, R.D. Virginia Beach, Va. : Virginia Polytechnic Inst. and State University Cooperative Ext. Service. The Vegetable growers news. July/Aug 1984. v. 39 (1). p. 2, 4. (NAL Call No.: DNAL 275.28 V52).

1521

Grain sorghum response to tillage method used during fallow and to limited irrigation.

AGJOAT. Baumhardt, R.L. Zartman, R.E.; Unger, P.W. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1985. v. 77 (4). p. 643-646. Includes references. (NAL Call No.: DNAL 4 AM34P).

1522

Influence of reduced tillage on furrow irrigation infiltration.

Eisenhauer, D.E. Dickey, E.C.; Fischbach, P.E.; Frank, K.D. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept.,

2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-2587). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1523

Nutrient, sediment, and herbicide losses in tile drainage under conservation and conventional tillage.

Gold, A.J. Loudon, T.L. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-2549). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1524

Reduced tillage and water use in irrigated cotton production.

Larson, D.L. Hinz, W.W.; Armstrong, J.F.; Fangmeier, D.D. St. Joseph, Mich., The Society. Transactions of the ASAE - American Society of Agricultural Engineers. Dec 1979. Dec 1979. (79-1521). 10 p. ill. 7 ref. (NAL Call No.: 290.9 AM32T).

1525

Shallow groundwater quality beneath an intensive multiple-cropping system using center pivot irrigation.

Hubbard, R.K. JEVQAA. Asmussen, L.E.; Allison, H.D. Madison : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1984. v. 13 (1). p. 156-161. Includes references. (NAL Call No.: QH540.J6).

1526

Subsurface trickle irrigation management with multiple cropping (Cantaloupe, onions, carrots).

Bucks, D.A. Erie, L.J.; French, O.F.; Nakayama, F.S.; Pew, W.D. St. Joseph, Mich., The Society. Transactions of the ASAE - American Society of Agricultural Engineers. Nov/Dec 1981. v. 24 (6). p. 1482-1489. ill. 17 ref. (NAL Call No.: 290.9 AM32T).

(DRAINAGE AND IRRIGATION)

1527

Views of rootstocks, varieties, irrigation and inter-cropping.

Thome, H. East Lansing, Mich., International Dwarf Fruit Tree Association. Compact fruit tree. June 1980. v. 13. p. 28-30. (NAL Call No.: 93.5 D96).

LAND RESOURCES

1528

Approaches for resolving mid-America's farmland problems (Conservation, land resources, no-till, soil erosion control, USA).

McLaughlin, C.T. NAWTA. Washington : Wildlife Management Institute. Transactions of the ... North American Wildlife and Natural Resources Conference. 1983. 1983. (48th). p. 28-31. (NAL Call No.: 412.9 N814).

1529

Cropland rental and soil conservation in the United States.

Bills, N.L. Washington, O.C. : The Department. Extract: Data from USOA's Resource Economics Survey challenge the common, but not well-substantiated, view that farmers are less concerned with erosion on land they rent than on land they own. At the national level, farmers' conservation efforts--as reflected in crop rotation, tillage practices, and use of conservation practices--on rented cropland compare favorably with those on owner-operated cropland. Nevertheless, rented land is subject to more erosion because a greater proportion of it is used to produce erosive row crops. Agricultural economic report - United States Dept. of Agriculture. Available from NTIS, order no. PB85-190973/AS. Mar 1983. (529). 13 p. Includes 26 references. (NAL Call No.: ONAL AGE A281.9 AG8A).

1530

Profit now with conservation.

Kessler, K. Moline, Ill., John Deere Plow Co. The Furrow. Apr 1980. v. 85 (4). p. 2-4. ill. (NAL Call No.: 6 F98).

1531

SOIL AND WATER RESOURCES CONSERVATION ACT.

DEPARTMENT OF AGRICULTURE~ SOIL CONSERVATION SERVICE. WASHINGTON, O.C DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE OCTOBER 1981 (EPA: OCTOBER 29, 1981). (PUR)IMPLEMENTATION OF A NATIONAL SOIL AND WATER CONSERVATION PROGRAM IS PROPOSED TO GUIDE FUTURE CONSERVATION ACTIVITIES ON THE NATION'S PRIVATE AND NONFEDERAL LANDS. THE PLAN WAS DEVELOPED AS A RESULT OF AN ASSESSMENT OF THE 1.5 BILLION ACRES OF NONFEDERAL LAND IN THE UNITED STATES. THE PREFERRED PLAN WOULD INVOLVE ESTABLISHMENT OF CLEAR NATIONAL PRIORITIES FOR ADDRESSING PROBLEMS ASSOCIATED WITH SOIL, WATER, AND RELATED RESOURCES OVER THE NEXT FIVE YEARS; PROVISION OF FEDERAL MATCHING BLOCK GRANTS TO STATES FOR AN EXPANDED ROLE IN DEVELOPING AND IMPLEMENTING CONSERVATION PROGRAMS; PROVISION FOR LOCAL CONSERVATION COORDINATING BOARDS TO APPRAISE LOCAL CONDITIONS AND DEVELOP PROGRAMS; PROVISION FOR STATE CONSERVATION COORDINATING BOARDS TO APPRAISE OVERALL STATE RESOURCES AND BUILD ON LOCAL PROGRAMS; ESTABLISHMENT OF A NATIONAL CONSERVATION BOARD TO ADVISE THE SECRETARY OF

AGRICULTURE ON CONSERVATION MATTERS; EXPANSION OF CONSERVATION FUNDING FOR CRITICAL AREAS WHERE SOIL EROSION OR OTHER RESOURCE PROBLEMS THREATEN THE PRODUCTIVE CAPACITY OF THE SOIL; EMPHASIS ON CONSERVATION TILLAGE AND OTHER COST-EFFICIENT MEASURES FOR REDUCING SOIL EROSION AND SOLVING RELATED PROBLEMS; EVALUATION OF TAX INCENTIVES AS INCENTIVE TO INCREASED USE OF CONSERVATION SYSTEMS; TECHNICAL AND FINANCIAL ASSISTANCE TO FARMERS AND RANCHERS FOR INSTALLATION OF CONSERVATION SYSTEMS; DEVELOPMENT OF RESEARCH, EDUCATION, AND INFORMATION SERVICES AROUND PROBLEMS THAT IMPAIR AGRICULTURAL PRODUCTIVITY; ESTABLISHMENT OF PILOT PROJECTS TO TEST NEW SOLUTIONS TO CONSERVATION PROBLEMS; REQUIREMENT THAT LAND OWNERS HAVE A CONSERVATION PLAN IN ORDER TO BE ELIGIBLE FOR FARMERS HOME ADMINISTRATION LOANS; MINIMIZATION OF CONFLICTS AMONG FEATURES OF FARM PROGRAMS THAT LIMIT ACHIEVEMENT OF CONSERVATION OBJECTIVES, FORTIFICATION OF COLLECTION AND ANALYSIS OF RESOURCE DATA, EVALUATION AND ANALYSIS OF CONSERVATION PROGRESS, AND EXPANSION OF THE USE OF LONG-TERM AGREEMENTS FOR THE PROVISION OF CONSERVATION ASSISTANCE. USOA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 3 VOLUMES. (NAL Call No.: 81-09810). 82-03520). Call No.: 82-0708F).

1532

WEST SOCORRO RANGELAND MANAGEMENT PROGRAM, NEW MEXICO.

DEPARTMENT OF THE INTERIOR~ BUREAU OF LAND MANAGEMENT. SOCORRO, NEW MEXICO DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT SEPTEMBER 1982 (EPA: SEPTEMBER 3, 1982). (PUR)IMPLEMENTATION OF A RANGELAND MANAGEMENT PROGRAM FOR 986,092 ACRES OF PUBLIC LAND WITHIN THE 6.0-MILLION-ACRE OJIVIE PLANNING AREA OF THE SAN AUGUSTINE RESOURCE AREA OF WEST-CENTRAL NEW MEXICO IS PROPOSED. THE AREA CONTAINS 187 GRAZING ALLOTMENTS. ALL ALLOTMENTS WERE EVALUATED AND ASSIGNED AN AVERAGE ALLOTMENT RANGE CONDITION. EACH ALLOTMENT WAS THEN PLACED WITHIN ONE OF SIX MANAGEMENT CATEGORIES, DEPENDING ON RANGE CONDITION AND ACREAGE OF PUBLIC LAND WITHIN THE ALLOTMENT. EACH OF THE CATEGORIES POSSESSES INHERENT MANAGEMENT ACTIONS BASED ON LIVESTOCK GRAZING AND MANAGEMENT PRINCIPLES; THESE INCLUDE SEASON-OF-USE, DISTRIBUTION OF DOMESTIC LIVESTOCK, KIND AND CLASS OF LIVESTOCK, AND NUMBERS OF LIVESTOCK. BASED ON THE MANAGEMENT CATEGORY IN WHICH AN ALLOTMENT HAS BEEN PLACED, THE PREFERRED PLAN WOULD IMPLEMENT, AT A MINIMUM, THOSE REQUIRED MANAGEMENT ACTIONS AND, POSSIBLY, OPTIONAL MANAGEMENT ACTIONS ON ALL 187 GRAZING ALLOTMENTS. IMPLEMENTATION OF MANAGEMENT ACTIONS BY ALLOTMENT MANAGEMENT CATEGORY WOULD BE CONDUCTED IN CONJUNCTION WITH CAREFUL AND CONSIDERED CONSULTATION, COOPERATION, AND COORDINATION WITH LESSEES, PERMITTEES, AND LANDOWNERS. MINIMUM RANGELAND IMPROVEMENTS TO BE CONSTRUCTED OR INSTALLED IN CONJUNCTION WITH THE PLAN WOULD INCLUDE 47 MILES OF FENCE, 65 MILES OF PIPELINE, 10 WELLS, AND 27 PIT TANKS. VEGETATIVE LAND TREATMENTS WOULD BE CONDUCTED ON A MAXIMUM OF 353,320

(LAND RESOURCES)

ACRES OF PUBLIC LAND; THESE TREATMENTS WOULD INCLUDE MECHANICAL MANIPULATION, HERBICIDE APPLICATION, AND PRESCRIBED USE OF FIRE TO CONTROL PINYON-JUNIPER AND RABBITBRUSH ENCROACHMENT ON A MAXIMUM OF 299,560 ACRES; USE OF PITTING, CONTOUR RIPPING, AND CONTOUR FURROWING ON A MAXIMUM OF 17,280 ACRES; AND USE OF SEEDING OR INTERSEEDING ON 36,480 ACRES. MONITORING PROGRAMS WOULD BE INSTITUTED TO DETERMINE THE EFFECTIVENESS OF MANAGEMENT ACTIONS IN IMPROVING THE STATUS OF THE AREA FOR LIVESTOCK AND WILDLIFE. (POS) SEDIMENT YIELDS WOULD BE REDUCED BY APPROXIMATELY EIGHT PERCENT OVER THE LONG. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 2 VOLUMES. (NAL

OVER THE LONG. USDA EMPLOYEES REQUEST DOCUMENTS FROM NATIONAL AGRICULTURAL LIBRARY OTHERS ORDER FROM INFORMATION RESOURCES PRESS, 1700 NORTH MOORE STREET, SUITE 700, ARLINGTON, VA 22209. 364 PAGES. (NAL Call No.:

1532

WEST SOCORRO RANGELAND MANAGEMENT PROGRAM, NEW MEXICO.

DEPARTMENT OF THE INTERIOR~ BUREAU OF LAND MANAGEMENT. SOCORRO, NEW MEXICO DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT MAY 1982 (EPA: APRIL 26, 1982). (PUR) IMPLEMENTATION OF A RANGELAND MANAGEMENT PROGRAM FOR 986,092 ACRES OF PUBLIC LAND WITHIN THE 6.0-MILLION-ACRE DIVIDE PLANNING AREA OF THE SAN AUGUSTINE RESOURCE AREA OF WEST-CENTRAL NEW MEXICO IS PROPOSED. THE AREA CONTAINS 187 GRAZING ALLOTMENTS. ALL ALLOTMENTS WERE EVALUATED AND ASSIGNED AN AVERAGE ALLOTMENT RANGE CONDITION. EACH ALLOTMENT WAS THEN PLACED WITHIN ONE OF SIX MANAGEMENT CATEGORIES, DEPENDING ON RANGE CONDITION AND ACREAGE OF PUBLIC LAND WITHIN THE ALLOTMENT. EACH OF THE CATEGORIES POSSESSES INHERENT MANAGEMENT ACTIONS BASED ON LIVESTOCK GRAZING AND MANAGEMENT PRINCIPLES; THESE INCLUDE SEASON-OF-USE, DISTRIBUTION OF DOMESTIC LIVESTOCK, KIND AND CLASS OF LIVESTOCK, AND NUMBERS OF LIVESTOCK. BASED ON THE MANAGEMENT CATEGORY IN WHICH AN ALLOTMENT HAS BEEN PLACED, THE PREFERRED PLAN WOULD IMPLEMENT, AT A MINIMUM, THOSE REQUIRED MANAGEMENT ACTIONS AND, POSSIBLY, OPTIONAL MANAGEMENT ACTIONS ON ALL 187 GRAZING ALLOTMENTS. IMPLEMENTATION OF MANAGEMENT ACTIONS BY ALLOTMENT MANAGEMENT CATEGORY WOULD BE CONDUCTED IN CONJUNCTION WITH CAREFUL AND CONSIDERED CONSULTATION, COOPERATION, AND COORDINATION WITH LESSEES, PERMITTEES, AND LANDOWNERS. MINIMUM RANGELAND IMPROVEMENTS TO BE CONSTRUCTED OR INSTALLED IN CONJUNCTION WITH THE PLAN WOULD INCLUDE 47 MILES OF FENCE, 65 MILES OF PIPELINE, 10 WELLS, AND 27 PIT TANKS. VEGETATIVE LAND TREATMENTS WOULD BE CONDUCTED ON A MAXIMUM OF 353,320 ACRES OF PUBLIC LAND; THESE TREATMENTS WOULD INCLUDE MECHANICAL MANIPULATION, HERBICIDE APPLICATION, AND PRESCRIBED USE OF FIRE TO CONTROL PINYON-JUNIPER AND RABBITBRUSH ENCROACHMENT ON A MAXIMUM OF 299,560 ACRES; USE OF PITTING, CONTOUR RIPPING, AND CONTOUR FURROWING ON A MAXIMUM OF 17,280 ACRES; AND USE OF SEEDING OR INTERSEEDING ON 36,480 ACRES. MONITORING PROGRAMS WOULD BE INSTITUTED TO DETERMINE THE EFFECTIVENESS OF MANAGEMENT ACTIONS IN IMPROVING THE STATUS OF THE AREA FOR LIVESTOCK AND WILDLIFE. (POS) SEDIMENT YIELDS WOULD BE REDUCED BY APPROXIMATELY EIGHT PERCENT

FEED COMPOSITION

1534

**Digestibilities of silages made from corn
interplanted with soybean or fababean.**

Murphy, W.M. Welch, J.G.; Palmer, R.H.; Gilman, B.E.; Albers, C.W.; Dugdale, D.T. Champaign, Ill. : American Dairy Science Association. Journal of dairy science. July 1984. v. 67 (7). p. 1532-1534. Includes 9 references. (NAL Call No.: 44.8 J822).

1535

Evaluation of Pensacola bahiagrass and Alicia bermudagrass with and without interplanted ryegrass and red clover (Perennial pasture grasses, forage yields, nutrient quality, Louisiana.

Montgomery, C.P.LAXBA. Nelson, B.D.; Allen, M.; Mason, L.; Mowers, R.P. Baton Rouge : The Station. Bulletin - Louisiana Agricultural Experiment Station. May 1983. May 1983. (748). 23 p. ill. Includes references. (NAL Call No.: 100 L93 (1)).

1536

Forage potentials of legume-interseeded pastures.

Bokhari, U.G. Stillwater, Okla., The Station. Research report P - Oklahoma, Agricultural Experiment Station. May 1982. May 1982. (824). p. 88-91. (NAL Call No.: 100 OK4M).

1537

Forage yield of intercropped corn and soybean in various planting patterns (Includes protein content, Massachusetts).

Herbert, S.J. Putnam, D.H.; Poos-Floyd, M.I.; Vargas, A.; Creighton, J.F. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1984. v. 76 (4). p. 507-510. ill. Includes references. (NAL Call No.: 4 AM34P).

POLLUTION

1538

An accelerated implementation program for reducing the diffuse-source phosphorus load to Lake Erie.

JSWCA3. Forster, D.L. Logan, T.J.; Yaksich, S.M.; Adams, J.R. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Jan/Feb 1985. v. 40 (1). p. 136-141. Includes 9 references. (NAL Call No.: DNAL 56.8 J822).

1539

Conservation practice effects on phosphorus losses from Southern Piedmont watersheds.

JSWCA3. Langdale, G.W. Leonard, R.A.; Thomas, A.W. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Jan/Feb 1985. v. 40 (1). p. 157-161. Includes 30 references. (NAL Call No.: DNAL 56.8 J822).

1540

Cyanazine losses in runoff from no-tillage corn in "living" and dead mulches vs. unmulched, conventional tillage (Herbicide, Zea mays).

Hall, J.K. JEVQAA. Hartwig, N.L.; Hoffman, L.D. Madison : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1984. v. 13 (1). p. 105-110. Includes references. (NAL Call No.: QH540.J6).

1541

Dissolved nitrogen and phosphorus in runoff from watersheds in conservation and conventional tillage.

JSWCA3. Alberts, E.E. Spomer, R.G. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Jan/Feb 1985. v. 40 (1). p. 153-157. Includes 12 references. (NAL Call No.: DNAL 56.8 J822).

1542

Environmental significance of minimum-tillage.

Thomas, G.W. Totowa, N.J. : Rowman & Allanheld, 1985. Agricultural chemicals of the future : invited papers presented at a symposium held May 16-19, 1983, at the Beltsville Agricultural Research Center (BARC), Beltsville, Maryland / James L. Hilton, edit. p. 411-423. Includes references. (NAL Call No.: DNAL S583.2.A374).

1543

Evaluating dairy waste management systems' influence on fecal coliform concentration in runoff / James A. Moore ... (et al.).

Moore, James A. Corvallis Oregon State University, Agricultural Experiment Station (1982). "A final report for a project funded

under Section 208 of the Federal Clean Water Act through ... Tillamook Soil and Water Conservation District, Soil and Water Conservation Commission, Oregon Department of Environmental Quality, (and) U.S. Environmental Protection Agency. ~"November 1982"--Cover ~DR HE0/Ag8/2.4B87:658. ii, 101 p. : ill. ; 28 cm. ~. Bibliography: p. 70-86. (NAL Call No.: 100 Or3 no.658).

1544

Issue in pollution control: interplant cost differences and economies of scale (Pulp and paper industry).

Pittman, R.W. Madison, University of Wisconsin Press. Land economics. Feb 1981. v. 57 (1). p. 1-17. Bibliography p. 13-15. (NAL Call No.: 282.8 J82).

1545

Nutrient losses in runoff from conventional and no-till corn watersheds (Nonpoint-source pollution, Maryland).

Angle, J.S. McClung, G.; McIntosh, M.S.; Thomas, P.M.; Wolf, D.C. Madison, Wis. : American Society of Agronomy. Journal of environmental quality. July/Sept 1984. v. 13 (3). p. 431-435. Includes references. (NAL Call No.: QH540.J6).

1546

Phosphorus losses as affected by tillage and manure application (Conventional, chisel, and no-till systems, maize, pollution potential of surface runoff).

Mueller, D.H. Wendt, R.C.; Daniel, T.C. Madison, Wis. : The Society. Journal - Soil Science Society of America. July/Aug 1984. v. 48 (4). p. 901-905. Includes 23 references. (NAL Call No.: 56.9 S03).

1547

Soil erosion awareness and use of conservation tillage for water quality control.

Korsching, P.F. WARBA. Nowak, P.J. Minneapolis : American Water Resources Association. Water resources bulletin. June 1983. v. 19 (3). p. 459-462. Includes references. (NAL Call No.: 292.9 AM34).

1548

Using simulation to assess the impacts of conservation tillage on movement of sediment and phosphorus into Lake Erie.

JSWCA3. Beasley, D.B. Monke, E.J.; Miller, E.R.; Huggins, L.F. Ankeny, Iowa : Soil Conservation Society of America. Journal of soil and water conservation. Mar/Apr 1985. v. 40 (2). p. 233-237. maps. Includes 11

references. (NAL Call No.: DNAL 56.8 J822).

1549

The adoption of reduced tillage: the role of human capital and other variables.

Rahm, M.R. Huffman, W.E. Ames, Iowa : American Agricultural Economics Association. Extract: This paper presents a model of adoption behavior and explains differences econometrically in farmers' decisions to adopt reduced-tillage practices and in the efficiency of farmers' adoption decisions. The empirical results, obtained from microdata, show that the probability of adopting reduced tillage in corn enterprises differs widely across farms and depends on soil characteristics, cropping systems, and size of farming operation. The results also show that farmers' schooling enhances the efficiency of the adoption decision. American journal of agricultural economics. Includes statistical data. Nov 1984. v. 66 (4). p. 405-413. Includes 26 references. (NAL Call No.: DNAL 280.8 J822).

1550

The economic and environmental impacts of an ethanol industry on Western New York.

Gould, B.W. College Park, Md. : The Council. Extract: This paper examines the economic, environmental and energy use impacts of a corn based ethanol industry on Western New York State. A regional linear programming model is used. Five representative farm groups are used to describe the agricultural sector of the study region. Comparisons are made between a benchmark solution and model formulations that include conservation tillage practices, ethanol induced feed price changes, and the feeding of the feed by-product, DDG. Journal - Northeastern Agricultural Economics Council. Fall 1982. v. 11 (2). p. 133-138. Includes 17 references. (NAL Call No.: HD1773.A2N6).

1551

Estimation of multicrop production functions.

Just, R.E. Zilberman, D.; Hochman, E. Ames, Iowa : American Agricultural Economics Association. Extract: This paper considers whether separability or nonjointness is the better approach for attaining tractability for multicrop production function estimation. Characteristics of agricultural production associated with allocated inputs, physical constraints, and output determination imply sufficient nonjointness for estimation, whereas separability is less plausible. The paper also addresses estimation of production functions with allocated inputs where allocations are not observed and demonstrates a proposed approach by way of example. American journal of agricultural economics. Nov 1983. v. 65 (4). p. 770-780. Includes 18 references. (NAL Call No.: 280.8 J822).

1552

Field verification of runoff curve numbers for fallow rotations (Conservation tillage, erosion control, Kansas).

Steichen, J. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-2096). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1553

Impacts of productivity loss on crop production and management in a dynamic economic model.

Miranowski, J.A. Ames, Iowa : American Agricultural Economics Association. Extract: This article finds the optimal choice of tillage method and crop rotation for farmers who correctly anticipate the yield-decreasing effects of soil erosion. Expected increases in crop prices lead to farming practices that are more conservation oriented. Higher relative prices for hay also lead to more soil conservation. A linear programming model of soil loss is presented for a watershed in Tama County, Iowa. American journal of agricultural economics. Feb 1984. v. 66 (1). p. 61-71. Includes 20 references. (NAL Call No.: 280.8 J822).

1554

Impacts of reduced tillage on operating inputs and machinery requirements.

Epplin, F.M. Tice, T.F.; Baquet, A.E.; Handke, S.J. Ames, Iowa, American Agricultural Economics Association. Extract: In this paper we present some work regarding alternative tillage systems for wheat production in Oklahoma. We include a section describing the physical and economic environment which has prompted our efforts in this area. Other sections describe our approach to estimating resource requirements of alternative systems. American journal of agricultural economics. Dec 1982. v. 64 (5). p. 1039-1046. Includes 13 references. (NAL Call No.: 280.8 J822).

1555

Issue in pollution control: interplant cost differences and economies of scale (Pulp and paper industry).

Pittman, R.W. Madison, University of Wisconsin Press. Land economics. Feb 1981. v. 57 (1). p. 1-17. Bibliography p. 13-15. (NAL Call No.: 282.8 J82).

1556

Managing corn residue to control soil and nutrient losses (Runoff, simulated rainfall plots, conservation tillage).
Mickelson, S.K. Baker, J.L.; Lafien, J.M. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1983. Paper presented at the 1983 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1983. (fiche no. 83-2161). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1557

Multiple crop supply and factor demand component of the world Grains, Oilseeds, and Livestock model.
Liu, K. Washington, D.C., The Service. Extract: This paper reviews the crop supply component of the world Grains, Oilseeds, and Livestock (GOL) model and attempts to develop an improved conceptual framework for specifying the multiple crop supply and input demand relationships in the GOL model. As a basis for examining and revising the crop supply component, the theoretical foundations for a multiple product production system and empirical studies related to agricultural commodity supply response were reviewed. The revised specification of the crop supply equations consists of a nonlinear equation system of area, yield and production. The major emphasis on the revision of the crop supply component is to ensure consistent acreage allocation among crop alternatives, to more realistically capture cross-price effects or substitution possibilities between alternative crops and to include policy variables to reflect the effects of government farm policies on crop supply response. ERS staff report - U.S. Dept. of Agriculture, Economic Research Service. Aug 1981. Available from NTIS. Aug 1981. (AGESS810812). 49 p. 67 ref. (NAL Call No.: 916762(AGE)).

1558

Pennsylvania farmland prices as a function of land quality and distance from metropolitan areas.
Downing, R.H. Gamble, H.B. College Park, Md. : The Council. Extract: Data on 268 farm sales in 10 counties throughout Pennsylvania in 1977 were analyzed using a hedonic price model. Problems associated with the influence of parcel size and buildings on per acre land values appear to have been overcome. Proximity of farms to metropolitan centers and the quantities of different types of land on a farm were important explanatory variables. Values per acre were computed showing the effects of those variables on price. Values for nontillable land, high productivity tillable

land, and land suitable for on-site sewage disposal tended to cluster within a \$650-\$700 price range per acre at 85 miles for the nearest SMSA. Journal - Northeastern Agricultural Economics Council. 1983. v. 12 (1). p. 67-74. Includes 10 references. (NAL Call No.: HD1773.A2N6).

1559

Predicting corn planting dates for moldboard and no-till tillage systems in the corn belt.
AGJOAT. Gupta, S.C. Madison, Wis. : American Society of Agronomy. Agronomy journal. Includes planting date maps. May/June 1985. v. 77 (3). p. 446-455. maps. Includes 14 references. (NAL Call No.: DNAL 4 AM34P).

1560

A stochastic dominance comparison of reduced tillage systems in corn and soybean production under risk.
Klemme, R.M. Ames, Iowa : American Agricultural Economics Association. Extract: Returns per acre of reduced tillage systems including conventional, chisel, till-plant, and no-till are examined under general assumptions concerning risk. These returns are calculated using corn and soybean experimental plot yields. Stochastic dominance rankings indicate an advantage (second degree) of conventional and chisel over no-till when soil loss costs are not assigned. Annual per acre soil loss costs of \$5-15 shift rankings towards the reduced tillage systems. A \$10 per acre cost results from corn yield losses of 0.06% per year (170 bushel per acre yield base) over fifty years with a 5% real discount rate. American journal of agricultural economics. Aug 1985. v. 67 (3). p. 550-562. Includes 14 references. (NAL Call No.: DNAL 280.8 J822).

1561

Trends in conservation tillage use.
JSWCA3. Magleby, R. Gadsby, D.; Colacicco, D.; Thigpen, J. Ankeny, Iowa : Soil Conservation Society of America. Extract: A recent U.S. Department of Agriculture (USDA) survey of more than 11,000 farmers nationwide--the 1983 Farm Production Expenditure Survey (FPES) conducted in the spring of 1984--provided some national and regional insights into the use of conservation tillage practices. Covered were such aspects as the extent and location of use, crops grown, size of farm, cropland slope, tenure, reasons given for use of conservation tillage, and government assistance received. Journal of soil and water conservation. Includes statistical data. May/June 1985. v. 40 (3). p. 274-276. Includes 1 references. (NAL Call No.: DNAL 56.8 J822).

DOCUMENTATION

1562

Annotated bibliography of selected extension publications, conservation tillage /by J.W. Bauder. -.

Bauder, J. W. Washington, D.C.? : Conservation Tillage Information Center ; Fort Wayne, Ind. (2010 Inwood Dr., Fort Wayne 46815) : Available from Conservation Tillage Information Center, 1984. Cover title: Cooperative extension publications on conservation tillage, an annotated bibliography.~ "A special project of the National Association of Conservation Districts."~ "This publication was produced as a cooperative effort of the Montana Cooperative Extension Service, the Minnesota Agricultural Extension Service, the Extension Service-USDA and the Conservation Tillage~ "July 1984.". 84 p. ; 28 cm. (NAL Call No.: DNAL Z5074.S65B37).

1563

Conservation tillage (including minimum and no tillage), May 1982-April 1984.

MacLean, J.T. Beltsville, Md. : The Library. Quick bibliography series - National Agricultural Library. June 1984. Updates 82-19 ~Bibliography. June 1984. (84-41). 36 p. (NAL Call No.: aZ5071.N3).

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Development of computerized databases for the Conservation Tillage Information Center.

Morrison, J.B. Madison : The Institute, (1983). NCCI Workshop, the Use of Computers in Agricultural Information : May 2-5, 1983, Palmer House, Chicago, Illinois / sponsored by North Central Computer Institute. 7 p. (NAL Call No.: S494.5.I47N38 1983).

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Double-cropping and interplanting, June 1982-December 1983.

MacLean, J.T. Beltsville, Md. : The Library. Quick bibliography series - National Agricultural Library. Mar 1984. Updates 82-29 ~Bibliography. Mar 1984. (84-18). 19 p. (NAL Call No.: aZ5071.N3).

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